Pacific Islands Fisheries Science Center

Fishery Statistics of the Western Pacific

Volume 24

Territory of American Samoa (2007)
Commonwealth of the Northern Mariana Islands (2007)
Territory of Guam (2007)
State of Hawaii (2007)

Compiled by

David C. Hamm, Michael M. C. Quach, Karen R. Brousseau and Craig J. Graham

June 2009

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Administrative Report H-09-03

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PREFACE

Increasingly, there is a demand for data and information concerning marine fisheries. To help meet this need in the central and western Pacific areas, the National Marine Fisheries Services (NMFS) Southwest Fisheries Science Center (SWFSC) Honolulu Laboratory initiated the Western Pacific Fisheries Information Network (WPacFIN) to assist Pacific island fisheries agencies improve their data collecting, data processing, and reporting capabilities.

In 1982, these agencies formed a Fisheries Data Coordinating Committee (FDCC) and an FDCC Technical Subcommittee to help guide, coordinate, and monitor all of their fisheries data-related activities. Significant progress has been made by all participating agencies, particularly in the areas of upgrading data collection and processing systems.

In a major step to improve and coordinate the data reporting and distribution systems of the agencies, the FDCC agreed in May 1985 to produce a combined document that would report each island's major fisheries statistics. Production of the document would be the responsibility of the FDCC Technical Subcommittee and would be coordinated by the WPacFIN Program Manager. Each agency would supply the data required to produce the tables and graphs for its respective section, and central WPacFIN staff would produce and distribute the document as part of the Administrative Report Series.

In April 2003, NMFS created a new Pacific Islands Region composed of the Pacific Islands Fisheries Science Center (PIFSC, formerly SWFSC's Honolulu Laboratory) and the Pacific Islands Regional Office (PIRO, formerly Southwest Regional Office's Pacific Islands Area Office). As such, this report is now affiliated with PIFSC rather than SWFSC.

This is the 24th volume in the series, "Fishery Statistics of the Western Pacific." It contains summaries of commercial landings for American Samoa, the Commonwealth of the Northern Mariana Islands, Guam, and Hawaii for the year 2007. As with previous volumes, it is divided into sections, with one for each of the major island areas. Each section contains reports about the monthly and annual landings by species and species groups for the commercial fleet.

INTRODUCTION

This report is compiled by fisheries agencies participating in the Western Pacific Fisheries Information Network (WPacFIN, formerly referenced as WPACFIN), a collaboration among fisheries agencies in Hawaii, Guam, the Commonwealth of the Northern Mariana Islands (CNMI), and American Samoa. WPacFIN's goal is to improve the availability and dissemination of fisheries information. Participating groups include

American Samoa	Department of Marine and Wildlife Resources (DMWR)
	Pacific Islands Regional Office (PIRO) Fisheries Monitoring Field Office, American Samoa
Commonwealth of the Northern Mariana Islands (CNMI)	Division of Fish and Wildlife (DFW)
Guam	Division of Aquatic and Wildlife Resources (DAWR)
	Bureau of Statistics and Plans (BSAP; formerly Department of Commerce)
Hawaii	Hawaii Division of Aquatic Resources (HDAR)
	Pacific Islands Fisheries Science Center (PIFSC)
	Pacific Islands Regional Office (PIRO)
	Western Pacific Regional Fisheries Management Council (WPFMC)

WPacFIN and these groups collect, computerize, edit, and process data from the islands. WPacFIN staff at the Pacific Islands Fisheries Science Center then use these data to create the summaries and graphs found in this document.

Data from DMWR, DAWR, and DFW are supplied on portable computer media in established WPacFIN database formats. Data for Hawaii are provided by HDAR through telecommunications. Once data from all agencies are entered into the central WPacFIN computer and appropriate edit, adjustment, and verification procedures are completed, summary tables and charts are produced using software developed by WPacFIN staff and commercially available software.

PROGRESS

In 1981, when WPacFIN began assisting agencies in improving their data collecting and processing systems, only the State of Hawaii had computerized processing. By mid-1982, fisheries offices in American Samoa, Guam, and CNMI were using WPacFIN-supplied computers to process data. Since that time, these agencies have made significant improvements to their data collecting systems and have established sound, automated data processing systems. Most agencies can now provide preliminary fishery statistics to WPacFIN within 45 days of the date of collection.

In particular, HDAR has significantly improved its procedures for editing, updating, and processing Hawaii's data; it has reduced the lag time in data processing from about 2.5 years to less than 3 months for most data. The biggest problems still facing HDAR in improving its data systems are reducing the delinquency of fisher reporting and implementing a validation system to ensure that the information reported by fishers is accurate. A Dealer Reporting System has been implemented to augment the Fishermen's Reporting System and has helped address this issue, and efforts are continuing to develop and implement other improvements to the Hawaii fisheries monitoring programs.

CAVEATS

Data collecting and processing systems vary greatly among Pacific island fisheries agencies. Although much standardization has taken place and is a continuing effort, there remain unique aspects of each island's systems based on local needs and capabilities.

Interpretation of data from this report, especially for comparative purposes, requires recognition of several caveats. For example, Hawaii's commercial landings data are based on mandatory monthly reporting by fish dealers and licensed commercial fishers as well as NOAA Fisheries longline logbooks. In contrast, data for CNMI and Guam are based on voluntary reporting of major fish buyers using government-provided trip ticket invoices, adjusted to represent 100% coverage, and referenced as "estimated commercial landings." Finally, American Samoa's data are based on a complex integration of data from a boat-based creel survey and data expansion system for a portion of the fisheries, mandatory logbooks and a size-frequency sampling program for the longline fishery, and a mandatory trip ticket invoice reporting system for local sales. Each system has advantages and disadvantages, and the reader should be aware of them when comparing or interpreting data. In addition, WPacFIN staff and the island agencies are continually improving the data collecting and processing systems in each area. Because the improvements usually result in updates to the estimates of total and commercial landings, the data in this volume may not match exactly with data in previous volumes of this report series.

The reader should also be aware that species assemblages vary among island groups, as do cultural preferences and principal fishing techniques and gear. The population of the island group is relevant to the interpretation of the relative value and importance of the fisheries. Descriptions of data collecting and processing systems are included in each island's section.

DEFINITIONS OF SPECIES CATEGORIES

In addition to a description of the data collecting systems and monthly and annual reports, each section contains graphs of summary fishery statistics of particular interest or importance to participating WPacFIN agencies. Species categories have been defined for each island's fisheries. Because of differences in reporting systems and capabilities, species in each category vary among the islands but all categories are documented in each island's section. Overlap exists among some of the categories used for different graphs.

Note: Many of the species included in this report have been recategorized over the years. For example, the Magnuson Fishery Conservation and Management Act of 1976 was amended in 1992 to include tunas in the Pelagic Management Unit Species (PMUS) category. However, this FSWP volume will maintain the original species categorizations from previous volumes for comparative purposes. As such, tunas are kept in a separate category.

Categories used in the graphs include

1. Fisheries Categories – These are combinations of species of similar ecological types, specifically pelagic, bottomfish, reef fish, and "other." "Other" includes groups that generally traverse these categories, such as certain sharks and jacks, or are not typically included in these groups, such as mullet and milkfish.

2. Pelagic Management Unit Species (PMUS) – The Magnuson Fishery Conservation and Management Act of 1976 was amended in 1992 to place tunas under U.S. jurisdiction for management. The Fishery Management Plan for Pacific Pelagic Species was amended to reflect this change. However, this report series will continue to treat tunas as a separate category, and the PMUS category in this document includes only billfishes, wahoo, mahimahi, and oceanic sharks.

3. Bottom Fish Management Unit Species (BMUS) – Defined as the species of initial importance in the Fishery Management Plan for bottomfish and seamount fisheries, including the major deepwater snapper, grouper, emperor, and certain jacks.

4. Tunas – All the tuna species excluding wahoo. Historically this had been predominantly skipjack and yellowfin in all areas, but with the growth of longline fisheries in Hawaii and American Samoa, bigeye and albacore have become much more important or even predominant.

5. Other Tunas – The definition varies among the islands depending on the importance of each tuna species in the total landings.

6. Billfish – Combination of blue, striped, and black marlins, sailfish, spearfish, and swordfish species.

GRAPHS

Four types of graphs are provided with each island's data, as follows:

- The first is a chart of the major species and species groups, showing the estimated commercial catch for each month of the year.

- The second is a seasonality plot for the major species or species groups, showing the average weight landed during each month for all years for which there are data.

- The third is a time series plot of annual summary statistics to illustrate the variability among years.

- The fourth type of graph plots monthly landings of some of the major commercially important species and documents monthly fluctuations in landings of these species over the entire time series (all years for which there are data).

To access the most up-to-date data and charts, please visit http://www.pifsc.noaa.gov/wpacfin.

AMERICAN SAMOA 2007 FISHERIES STATISTICS

Compiled by

American Samoa

Department of Marine and Wildlife Resources

and the

Western Pacific Fishery Information Network

June 2009

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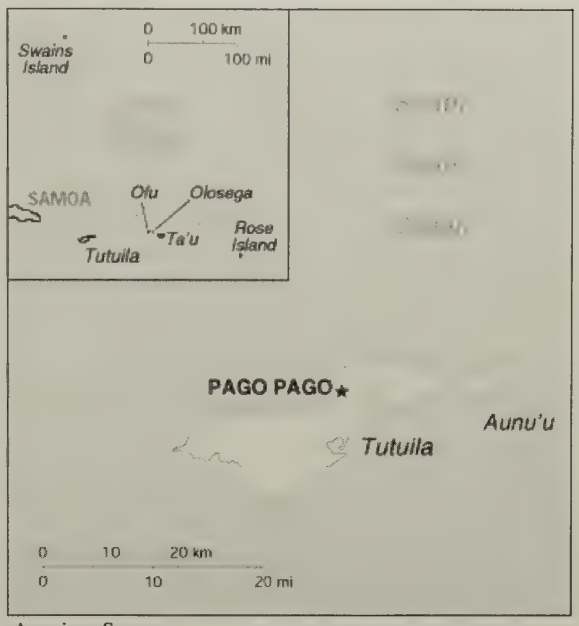
AMERICAN SAMOA 2007 FISHERIES STATISTICS

INTRODUCTION

Location: 14°S latitude, 170°W longitude
Islands: Tutuila, Aunu`u, the Manu`a Islands (Ofu, Olosega, Ta`u), Rose Atoll (uninhabited), and Swains Island (sparsely populated)
Population: about 64,800 (the majority of the population lives on Tutuila); (*The World Factbook*, 2009)
Economy: tuna canneries (largely supplied by foreign fishing vessels), handicrafts



American Samoa
Source: http://www.cia.gov/cia/publications/factbook/aq.html; *The World Factbook*

The American Samoa Department of Marine and Wildlife Resources (DMWR; formerly the Office of Marine Resources) is located near Pago Pago on Tutuila and has been collecting commercial fisheries data from the Tutuila fleet since the early 1970s. In 1983 it extended its coverage to the Manu`a Islands, and in 1985 DMWR modified its data collection programs to include recreational and subsistence fisheries data.

American Samoa's domestic fisheries have typically been small-boat, 1-day fisheries using primarily 28- to 32-foot long, outboard-engine-powered catamarans called *alias* (pronounced *ah-lee-ahs*). Traditionally, trolling and bottomfishing were the major methods of fishing, and a little spearfishing, netting, and vertical longlining were done occasionally. Beginning in about mid-1995 some of the traditional alias began converting to horizontal longlining. During 1996 horizontal longlining became the largest fishery in American Samoa based on total landed weight of the catch, even though only about one-third of the fleet had converted to this method. Over the next few years the fleet grew rapidly with the addition of new alias up to about 38 feet in length and, more significantly, with the addition of other larger monohull vessels that fished much longer trips. The primary target species is albacore tuna, but the fishery has also resulted in significant increases in landings of yellowfin tuna, wahoo, blue marlin, mahimahi and some other incidentally caught species.

During 2007, according to the boat-based creel survey and the longline log books, 65 active vessels were identified – 58 homeported on Tutuila and 9 in the Manu`a Islands. Many of these vessels participated in more than one fishery, and 30 of the Tutuila boats (including 27 monohull vessels, which were over 40 feet in length) did at least some longlining. Of the 65 total boats, 23 participated in the troll and bottomfish fisheries and 9 were used in other forms of fishing activities. On average, the alia fleet on Tutuila consisted of 3-man crews, fished 8

hours, and caught about 209 pounds of fish; the Manu`a-based fleet typically had 3-man crews, fished about 5 hours and landed 76 pounds of fish. Essentially all of the longlining was based out of Tutuila, where the majority of the catch was off-loaded to the canneries.

DATA REVISIONS

Significant changes in the fisheries occurred in the mid-1990s with the development of the longline fishery and a nighttime, boat-based scuba spearfishing fishery. Because of the nature of these fisheries, biases began creeping into the effort-counting and interviewing processes of the DMWR surveys. By 1997 WPacFIN staff discovered the problems, and modifications to survey techniques were implemented by DMWR staff. It became clear by early 1998 that the algorithms used to expand the survey data and estimate for the total fishery also needed to be changed. The new data processing programs that better handle the more complex nature of today's fisheries in American Samoa have been completed and were used to reprocess the historical time series. This volume includes the results of this new improved algorithm, but additional data quality control procedures and algorithm enhancements are still being made that may cause small changes in subsequent reports.

DATA COLLECTING

The data collecting programs used by DMWR to monitor the changing fisheries of American Samoa have evolved considerably over the past 20 years. One common factor of all the programs has been that they relied heavily on personal contacts with fishers and on a significant amount of dockside monitoring and interviewing. From 1982 to 1985, DMWR obtained catch statistics by interviewing commercial fishermen at the end of their trips and kept records of as much commercial fishing activity as possible; this was referred to as the Commercial Catch Monitoring System. This data collection method was accurate for trips where interviews were conducted. However, it was very labor intensive, did not cover all trips, and did not include the small but growing recreational and subsistence fisheries.

There are several major programs in place today. Data from these programs are used to develop the best available data for the complex, rapidly changing fisheries of American Samoa. These are

1. Vessel Classification Program – a vessel history and tracking system for all American Samoa vessels.
2. Boat-based Creel Survey Program (formerly the Offshore Creel Survey System) – access-point creel surveys on Tutuila and the Manu`a Islands, which are the mainstay of the monitoring program.
3. Commercial Purchase Program – a mandatory purchase receipt trip ticket system for fish businesses on Tutuila.
4. Federal Longline Logbook Program and Daily Effort Census Program for detailed tracking of the longline fishery.
5. Cannery Landings Program to document all landings at the two canneries made by domestic and foreign vessels.
6. Size frequency sampling program at the canneries.

Vessel Classification Program – Beginning in the early 1980s, this program was established to collect information on all vessels participating in any domestic fisheries. It provides the following information on American Samoa vessels:

- Boat Name
- Registration Number
- Propulsion
- Length
- Beam
- Number Of Engines
- Type Of Use
- Trailered
- Number Of Crew
- Depth
- Engine Type
- Fuel Type
- Material
- Horsepower
- Port
- Methods Of Fishing
- Federal Permit

Boat-based Creel Survey Program – In October 1985, a new creel survey sampling program was implemented on Tutuila to provide better coverage and statistics on all boat-based fisheries, including noncommercial information. Soon afterwards, similar monitoring programs were established in the Manu`a Islands, where the fishing fleets are centrally located and small enough for statistics to be collected for nearly every trip. The surveyors in the Manu`a Islands send their monitoring forms to DMWR in Tutuila for processing.

The details of the Tutuila boat-based fishery sampling program have changed over the years to accommodate changes in the fisheries; but it is still a systematic, random sampling program that stratifies sampling by type of day (either weekday or weekend/holiday) and by fishing method. For logistical and cultural reasons, Sundays are no longer sampled as effort is extremely low and not similar to other weekend/holiday-type days.

DMWR staff normally sample 2 weekdays and 1 weekend/holiday per week. During survey days, counts of total participation are collected, and as many returning vessels as possible are interviewed for catch, effort, and biological samples. Tutuila is divided into six sample areas, five of which are sampled. It is assumed that the nonsampled area is similar to the sampled areas in fishing activity and success rate. Furthermore, it is assumed that the fishers interviewed are representative of the entire fishing population and that they give accurate information.

Unless contrary information is available from dockside questioning of knowledgeable persons, a boat is assumed to be "out fishing" if its trailer is at a boat ramp or the boat is missing from its normal berthing area during the 18-hour survey day. The following participation information is recorded for all boats determined to be "out fishing."

It is expanded to estimate the total number of fishing trips in Tutuila:

- Sample Date
- Boat Name
- 3 Observation Times
- Type of Day
- Fishing Method
- Sample Area

The remaining data items listed below are collected on each boat for which an interview is successfully completed:

- Interview Time *
- Area Fished
- Home Island
- Total Hours Fished (trip length) *
- Number of Fishers
- Number of Gear Used
- Total Trip Weight in Pounds *
- Species Caught *
- Number of Pieces for Each Species
- Disposition of Species *
- Weight in Pounds for Each Species *
- Condition of Species if Not Whole
- Length of Fish (Converted To Weight)
- Price per Pound for Each Species

It is not always possible to obtain information on all the items listed. However, the ones marked with an asterisk (*) are considered essential for data expansion purposes. Also, identification and weight of each species are often not obtainable; in this case a code for species groupings (e.g., miscellaneous bottomfish) is used. The interview data is later expanded to estimate the total catch per fishing trips and other catch-per-unit-of-effort (CPUE) measures in Tutuila. The catch-per-trip estimate is multiplied by the number of trips estimated for each stratum to obtain an estimate of the total catch for Tutuila. The Manu`a statistics are added to the expanded estimated data for Tutuila to arrive at a total estimate for American Samoa.

Commercial Purchase Program – For several decades the two canneries provided monthly summary statistics about their purchases of fish from all vessels, foreign and domestic. Then in September 1990, a Commercial Purchase Program was instituted in which all other businesses in Samoa that buy fish directly from fishermen were required by local law to submit a copy of their purchase receipts to DMWR. Receipt books are issued by DMWR to all fish markets, stores, hotels, and restaurants that resell fish, either whole or prepared. The following information is collected via these receipts:

- Invoice Date
- Invoice Number
- Buyer's Name
- Boat Name, Owner
- Area Fished
- Fishing Method
- Species Bought
- Number of Pieces for Each Species
- Weight in Pounds for Each Species *
- Price per Pound for Each Species

Federal Longline Logbook System and Daily Effort Census – In January 1996, in response to the developing longline fishery, a mandatory federal longline logbook system was implemented by NMFS. All longline fishermen are required to obtain a federal permit and to

submit logs containing detailed data about each of their sets and the resulting catch. From 1996 to 1999, the logbooks submitted by the local longliners were edited by the NMFS fisheries monitoring agent in Samoa for any missing data and were then sent to PIFSC (formerly the Honolulu Laboratory) for further editing and data processing.

In July 1999, to improve monitoring of the fast-growing longline fishery, DMWR implemented a Daily Effort Census (DEC) for all federally permitted longline vessels. Six days a week, DMWR staffs make two visits a day to ports where longline vessels move. The staff document whether each vessel on the list is "in port" or "out fishing." The DEC data are used to track the activity of each vessel and to help ensure all fishing log sheets are submitted by fishers.

To further improve the quality and timeliness of the data, beginning in January 2000, logbook data collecting, editing, and processing have been done by DMWR in Samoa and downloaded to NMFS periodically. The following information is recorded for each "set" these longline fishermen make:

- Set Date
- Vessel
- Date of Departure
- Port of Departure
- Date of Arrival
- Port of Arrival
- Observer on Board
- Target Species
- Bait Used
- Mainline Length
- No. of Hooks
- No. of Hooks/Float
- No. of Lightsticks Used
- Bird Catch Mitigation Measures
- Wind Detection
- Wave Height
- Sea Surface Temperature
- Wind Speed
- Begin Set Time
- Begin Set Latitude and Longitude
- End Set Time
- End Set Latitude and Longitude
- Haul Date
- Begin Haul Date
- Begin Haul Latitude and Longitude
- End Haul Time
- End Haul Latitude and Longitude
- No. of Pelagic Species Kept
- No. of Pelagic Species Released
- No. of Sharks Finned
- No. of Sharks Kept
- No. of Sharks Released
- No. of Protected Species Released Alive
- No. of Protected Species Released Injured
- No. of Protected Species Released Dead

In addition, on a monthly basis, logbook data are compared with cannery unloading data for Samoa-based boats, to identify boats that unloaded at the canneries but did not turn in any or just a part of the required longline logs.

The longline logbooks do not provide information about the number of pounds caught or the disposition of fish caught by longline vessels, neither of which is covered by the boat-based creel survey either. Beginning in April 2001, to provide better estimates of the pounds per fish

caught by the longline vessels, length data from South Pacific Regional Longline Port Sampling Forms were collected for Samoa-based longliners and converted to pounds. Disposition data were also entered in the comments section of these forms to provide sampled disposition data on the fish caught.

DATA PROCESSING

As the data collecting programs used by DMWR to monitor the fisheries in American Samoa have changed over the years, so have the data processing systems. Numerous versions of database and utility software and microcomputer systems have been used over the years to meet the growing demand for processing the collected data. Generally speaking, these changes, with significant emphasis on improving data quality and cross validation among systems, have made the data processing systems more robust, complex, and complete.

The following important principles have remained constant over time:

1. Keep data processing close to the source of data collecting.
2. Provide all of the needed software tools to ensure the quality of data.
3. Make systems user-friendly and functional for the local staff.
4. Maintain as many standards as possible throughout the time series of data collected.

Typically, when upgrades (such as changes in expansion and reporting algorithms for the creel survey data and commercial landings data) have been made to data processing systems, the entire time series of data would be reprocessed using the same algorithms so that trends in the fisheries would remain as intact as possible. The annual and monthly estimated commercial landings data and the corresponding time series figures included in this report were produced with the versions of data processing systems in use in May 2001. To help the reader understand the origin of the data included in this report, a general description of these processes follows. Please note that it does not include the details on many minor changes that have occurred throughout the evolutionary history of these systems.

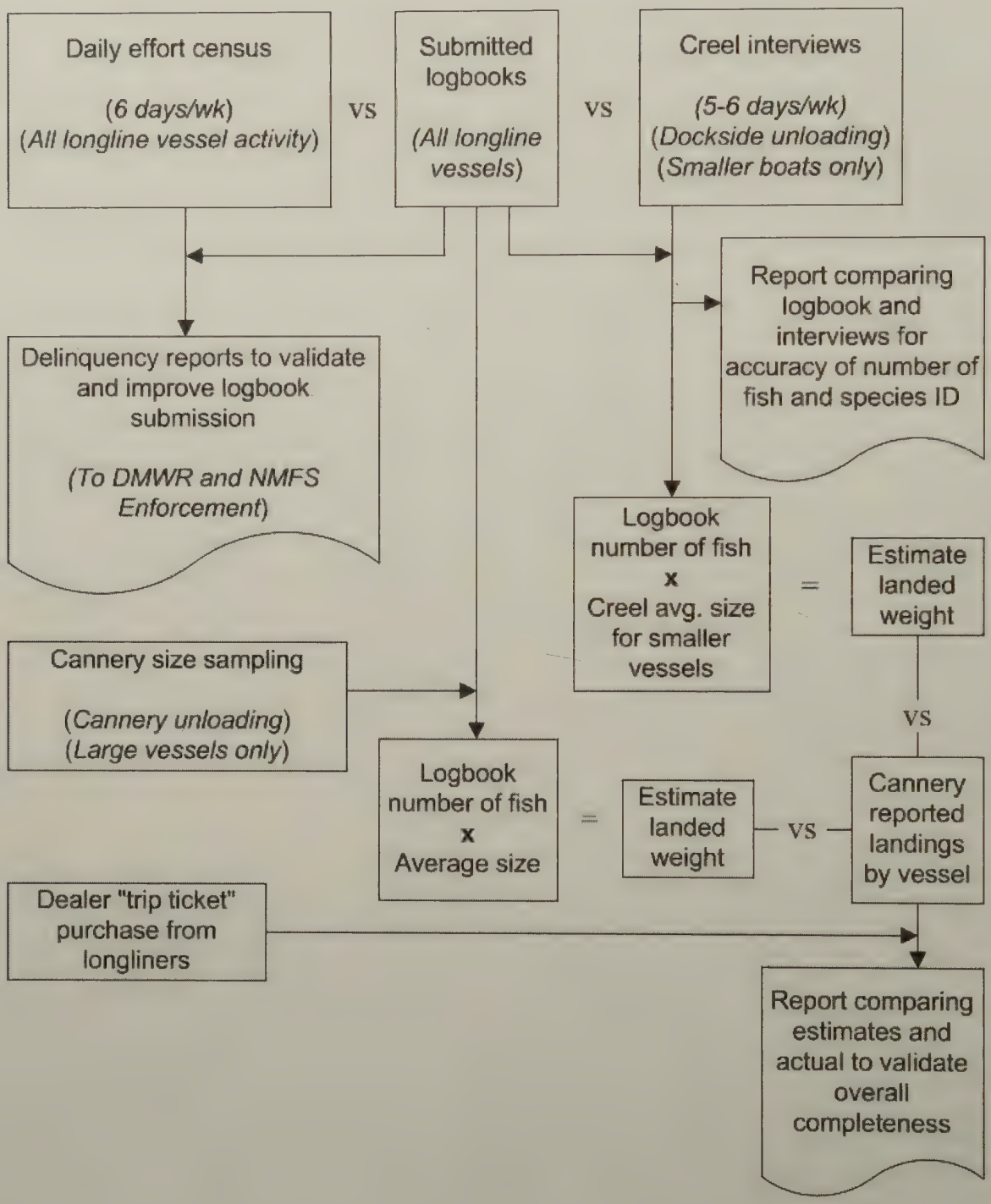
The data from 1982 to 1985 have been imported directly from the original Commercial Catch Monitoring System used prior to the implementation of the boat-based creel survey. Since 1986, the boat-based creel survey data expansion system has been the central system for estimating total commercial landings in American Samoa. In short, the survey data expansion process involves multiplying the average daily participation by the average catch per trip for each stratum. For the years 1986 to 1990, commercial sales portions of the expanded creel survey data from Tutuila and the Manu`a Islands were combined to produce estimated total commercial landings. Since 1990, with the implementation of the mandatory fish dealer receipt book system on Tutuila (Commercial Purchase Program), further adjustments have been made to these combined creel data by using receipt book data. These adjustments made significant improvements in overall totals as they helped adjust for sales not monitored through the boat-based survey (e.g., inshore and strictly nighttime commercial fishing). Species totals modified with these types of adjustments are flagged in reports with an asterisk. Finally, in the late 1990s when larger longline vessels began landing their catches directly at the canneries and thus out of the monitoring capabilities of the standard creel surveys, the longline logbook

system and cannery size frequency sampling data entered the algorithm to fill the gap for this portion of the fishery. This data added the landings of these vessels to create a more complete picture of the estimated total commercial landings for the territory.

One of the most significant recent improvements made in the data processing systems for DMWR has been in the area of cross-system data validation and quality control. By collecting similar data from several sources using different monitoring and reporting tools, the quality of reported data can be cross-referenced between systems to provide insight into the validity and completeness of each data set. The following schematic shows some cross-system data validation relationships and features that are used in the most current version of the integrated DMWR fisheries monitoring programs (see next page).

Data Quality and Cross Validation

American Samoa Longline Example



DATA REPORTING

After all editing, quality control, and data interpretation activities are completed, monthly and annual commercial landings data tables by species are generated. Each of the commercial landings data tables contain the common name, weight in pounds, value in dollars, the average price per pound of each species or species group, and whether the data was modified by Commercial Purchase System data (denoted by asterisks). The monthly data tables are based on monthly expansions of the Tutuila boat-based creel survey data with enhancements by monthly Longline Logbook, Commercial Purchase System, and Manu`a data as explained previously. Annual data tables are based on combined annual expansions of the creel data for the entire calendar year with similar annual enhancements from Longline Logbook, Commercial Purchase System, and Manu`a data. Since the monthly and annual data tables are based on separate monthly and annual expansion of the creel data, the annual data tables are not the exact sum of the 12 monthly data tables, but they fall within the standard error (Tables A-1 to A-13).

The charts that make up the rest of the report are for groups of species as well as for some of the dominant individual species. Some of the charts in this volume are new or modified from earlier volumes. To access the most up-to-date data and charts, please visit http://www.pifsc.noaa.gov/wpacfin. The top 10 commercial species for the year are emphasized, and they can change from year to year.

SPECIES CATEGORIES

The species and species groups that are used in the tables and graphs of American Samoa's data are defined in this section. Many of the species included in this report have been recategorized over the years. For example, the Magnuson Fishery Conservation and Management Act of 1976 was amended in 1992 to include tunas in the Pelagic Management Unit Species (PMUS) category. However, this report maintains the original species categorizations from previous FSWP reports for comparative purposes. As such, tunas are kept in a separate category.

I. Pelagic Management Unit Species (PMUS)

- Sharks
- Mahimahi
- Blue marlin
- Black marlin
- Striped marlin
- Sailfish
- Spearfish
- Swordfish
- Wahoo
- Pomfret
- Moonfish

II. Bottomfish Management Unit Species (BMUS)

- Black jack
- Amberjack
- Yelloweye opakapaka
- Blacktip grouper
- Lunartail grouper
- Blue lined snapper
- Gray jobfish
- Pink snapper (opakapaka)
- Flower snapper (gindai)
- Yellowtail snapper
- Smalltooth jobfish (lehi)
- Longtail snapper (onaga)
- Squirrel snapper (ehu)
- Redgill emperor

III. Billfishes

- Swordfish
- Blue marlin
- Black marlin
- Striped marlin
- Sailfish
- Spearfish

IV. Tunas

- Skipjack tuna
- Dogtooth tuna
- Albacore tuna
- Yellowfin tuna
- Bigeye tuna
- Kawakawa

V. Other Tunas

- Dogtooth tuna
- Kawakawa

VI. Fisheries Categories

A. *Pelagic Fishes*

- Albacore tuna
- Barracudas
- Bigeye tuna
- Black marlin
- Blue marlin
- Dogtooth tuna
- Kawakawa
- Mackerel
- Mahimahi
- Moonfish
- Oilfish
- Pelagic fishes (unknown)
- Pomfret
- Rainbow runner
- Sailfish
- Sharks
- Skipjack tuna
- Spearfish
- Striped marlin
- Swordfish
- Wahoo
- Yellowfin tuna

B. *Bottomfishes*

- Amberjack
- Bigeye emperor
- Bigeye scad
- Bigeye trevally
- Black jack
- Black snapper
- Blacktip grouper
- Blue lined gindai
- Blue lined snapper
- Bluefin trevally
- Bottomfishes (unknown)
- Emperors
- Flower snapper (gindai)
- Gray jobfish
- Greater amberjack
- Groupers
- Humpback snapper
- Jacks
- Longnose emperor
- Longtail snapper (onaga)
- Lunartail grouper
- Onespot snapper
- Orangespot emperor
- Peacock grouper
- Pink snapper (opakapaka)
- Redgill emperor
- Smalltooth jobfish (lehi)
- Squirrel snapper (ehu)
- Stone's snapper
- Tomato grouper
- Trevallys
- Yelloweye opakapaka
- Yellowspot grouper
- Yellowtail snapper

C. *Reef Fishes*

- Butterflyfishes
- Flounders
- Goatfishes
- Inshore groupers
- Inshore snappers
- Mullets
- Parrotfishes
- Rudderfishes
- Sergeant major
- Soldierfishes
- Squirrelfishes
- Surgeonfishes/tangs
- Sweepers
- Sweetlips
- Terapon perch
- Triggerfishes
- Unicornfishes
- Wrasses

D. *Other Fishes*

- Crabs
- Eels
- Filefishes
- Giant clam
- Moray eels
- Octopus
- Shrimp
- Spiny lobster
- Spiny pufferfish
- Threadfins
- Tilapia

INTERPRETATION OF STATISTICS

When interpreting the data in the tables and graphs, keep in mind the caveats described earlier in this section. Remember also that the commercial landings summaries are not based on a census of all fishing activities, but on samples of those activities and on integration of data from several different data programs. One of the major factors in expanding the creel survey data into monthly and annual estimates is the use of proportionality constants to adjust for percent coverage of the surveys. The flexibility of the survey design allows for refinement of these constants as additional information is gained about fishing activities. If the constants are improved, the basic survey data can be expanded again to create better overall estimates. However, the variability and species composition would not be expected to change because these statistics are based on the actual survey information collected from fishers. The estimates of total landings are considered to be conservative because catches from subsistence inshore fisheries are currently not included in this document.

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Table A-1
American Samoa Annual 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Amberjack	80	200	2.50	
Greater amberjack	1,172	2,601	2.22	
Barracudas	1,398	3,250	2.32	
Bottomfishes (unknown)	8,701	20,463	2.35	*
Butterflyfishes	29	70	2.43	
Giant clam	1,063	1,063	1.00	
Crabs	440	612	1.39	*
Eels	124	311	2.50	
Moray eels	154	328	2.13	
Bigeye emperor	68	160	2.36	
Longnose emperor	3,689	8,625	2.34	
Orangespot emperor	397	985	2.48	
Redgill emperor	1,278	2,988	2.34	
Emperors	2,417	5,858	2.42	
Filefishes	226	502	2.22	
Flounders	220	359	1.63	*
Blue lined gindai	133	267	2.00	
Goatfishes	121	288	2.39	
Blacktip grouper	7	14	2.17	
Lunartail grouper	616	1,419	2.30	
Peacock grouper	111	256	2.31	
Tomato grouper	141	296	2.10	
Yellowspot grouper	58	142	2.43	
Groupers	901	2,083	2.31	*
Inshore groupers	474	1,155	2.44	*
Black jack	893	1,939	2.17	
Jacks	724	1,732	2.39	
Gray jobfish	2,338	5,572	2.38	
Smalltooth jobfish (lehi)	3,077	7,025	2.28	
Spiny lobster	2,327	9,874	4.24	
Mackerel	3,978	6,274	1.58	
Mahimahi	25,916	46,816	1.81	
Black marlin	620	620	1.00	
Blue marlin	64,135	69,003	1.08	
Striped marlin	1,508	1,432	0.95	
Mullets	54	174	3.23	*
Octopus	1,964	5,042	2.57	*
Oilfish	44	26	0.60	
Moonfish	4,096	5,734	1.40	
Yelloweye opakapaka	286	622	2.18	
Parrotfishes	4,833	12,104	2.50	*
Pelagic fishes (unknown)	4,341	10,852	2.50	
Terapon perch	57	114	2.00	
Pomfret	807	1,744	2.16	
Spiny pufferfish	51	114	2.25	
Rainbow runner	207	459	2.21	

Table A-1 (continued)
American Samoa Annual 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Rudderfishes	163	371	2.27	
Sailfish	2,092	3,050	1.46	
Bigeye scad	2,393	4,228	1.77	
Sergeant major	264	592	2.24	
Sharks	510	545	1.07	
Shrimp	95	669	7.04	*
Black snapper	74	156	2.10	
Blue lined snapper	1,723	4,162	2.42	*
Flower snapper (gindai)	623	1,645	2.64	*
Humpback snapper	3,933	9,263	2.35	
Longtail snapper (onaga)	2,811	6,463	2.30	
Onespot snapper	83	192	2.33	
Pink snapper (opakapaka)	73	169	2.32	*
Squirrel snapper (ehu)	1,018	3,296	3.24	*
Stone's snapper	536	1,154	2.15	
Yellowtail snapper	337	611	1.81	
Inshore snappers	77	195	2.54	
Soldierfishes	725	1,903	2.62	
Spearfish	1,012	1,063	1.05	
Squirrelfishes	1,017	2,352	2.31	*
Surgeonfishes/tangs	10,338	23,586	2.28	*
Sweepers	1,693	4,647	2.74	
Sweetlips	160	480	3.00	
Swordfish	19,141	51,430	2.69	
Threadfins	25	49	2.00	
Tilapia	1,391	1,779	1.28	*
Bigeye trevally	237	568	2.40	
Bluefin trevally	7	17	2.49	
Trevallys	97	228	2.36	
Triggerfishes	13	30	2.25	
Albacore tuna	11,438,447	11,467,541	1.00	
Bigeye tuna	509,736	567,360	1.11	
Dogtooth tuna	788	1,775	2.25	
Kawakawa	98	138	1.41	
Skipjack tuna	373,135	210,543	0.56	
Yellowfin tuna	1,406,368	1,341,543	0.95	
Unicornfishes	1,849	4,198	2.27	*
Wahoo	436,874	266,829	0.61	
Wrasses	147	361	2.45	
TOTAL	14,366,375	14,226,751	0.99	

* Data replaced or modified by Actual Commercial Landings Data

Table A-2
American Samoa January 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Greater amberjack	374	841	2.25	
Barracudas	145	348	2.39	
Redgill emperor	314	707	2.25	
Filefishes	39	85	2.22	
Flounders	220	359	1.63	*
Inshore groupers	42	90	2.13	*
Gray jobfish	31	73	2.38	
Smalltooth jobfish (lehi)	254	571	2.25	
Spiny lobster	47	233	4.94	*
Mackerel	71	112	1.58	
Mahimahi	3,074	6,142	2.00	
Blue marlin	8,790	14,064	1.60	
Striped marlin	565	537	0.95	
Mullets	20	89	4.46	*
Octopus	110	274	2.50	*
Moonfish	640	896	1.40	
Parrotfishes	222	587	2.65	*
Pomfret	91	196	2.16	
Sailfish	518	415	0.80	
Sharks	18	32	1.83	
Shrimp	80	639	7.99	*
Blue lined snapper	48	115	2.41	
Flower snapper (gindai)	15	38	2.64	
Humpback snapper	127	300	2.37	
Longtail snapper (onaga)	274	656	2.39	
Squirrel snapper (ehu)	42	127	3.01	*
Stone's snapper	15	33	2.25	
Yellowtail snapper	118	562	4.76	*
Spearfish	31	32	1.05	
Squirrelfishes	68	155	2.28	*
Surgeonfishes/tangs	936	1,989	2.12	*
Sweetlips	145	435	3.00	*
Swordfish	4,926	12,069	2.45	
Tilapia	320	369	1.15	*
Bigeye trevally	2	5	2.38	
Albacore tuna	798,235	800,579	1.00	
Bigeye tuna	34,860	39,898	1.14	
Kawakawa	32	45	1.43	
Skipjack tuna	27,919	15,848	0.57	
Yellowfin tuna	43,243	42,520	0.98	
Unicornfishes	150	322	2.15	*
Wahoo	53,272	33,992	0.64	
TOTAL	980,439	977,377	1.00	

* Data replaced or modified by Actual Commercial Landings Data

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Table A-3
American Samoa February 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Amberjack	20	50	2.50	
Greater amberjack	90	202	2.25	
Barracudas	106	242	2.29	
Orangespot emperor	11	25	2.25	
Redgill emperor	99	230	2.32	
Lunartail grouper	14	30	2.18	
Tomato grouper	7	14	2.00	
Inshore groupers	73	159	2.17	*
Black jack	27	57	2.14	
Gray jobfish	26	59	2.29	
Smalltooth jobfish (lehi)	112	252	2.25	
Spiny lobster	841	3,176	3.78	
Mackerel	67	105	1.58	
Mahimahi	3,346	6,221	1.86	
Black marlin	353	353	1.00	
Blue marlin	10,818	8,654	0.80	
Striped marlin	63	60	0.95	
Octopus	93	233	2.50	*
Moonfish	160	224	1.40	
Yelloweye opakapaka	2	5	2.22	
Parrotfishes	478	1,050	2.20	*
Pomfret	50	109	2.16	
Rudderfishes	13	29	2.29	
Sailfish	217	315	1.45	
Sharks	150	75	0.50	
Blue lined snapper	16	38	2.41	
Humpback snapper	67	159	2.37	
Longtail snapper (onaga)	135	323	2.39	
Squirrel snapper (ehu)	60	133	2.23	
Stone's snapper	15	32	2.07	
Yellowtail snapper	13	24	1.86	
Spearfish	184	193	1.05	
Squirrelfishes	71	160	2.26	*
Surgeonfishes/tangs	742	1,630	2.20	*
Sweepers	11	28	2.50	
Sweetlips	35	104	3.00	
Swordfish	2,166	5,307	2.45	
Tilapia	85	92	1.08	*
Bigeye trevally	14	36	2.50	
Albacore tuna	357,639	357,871	1.00	
Bigeye tuna	39,293	43,328	1.10	
Dogtooth tuna	33	75	2.27	
Kawakawa	29	41	1.43	
Skipjack tuna	18,782	10,684	0.57	
Yellowfin tuna	81,533	74,912	0.92	
Unicornfishes	115	252	2.19	*

Table A-3 (continued)
American Samoa February 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Wahoo	34,721	21,219	0.61
TOTAL	552,992	538,565	0.97

* Data replaced or modified by Actual Commercial Landings Data

Table A-4
American Samoa March 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Greater amberjack	53	114	2.15	
Barracudas	173	375	2.17	
Bottomfishes (unknown)	1,063	2,166	2.04	*
Butterflyfishes	22	53	2.44	
Giant clam	619	619	1.00	
Eels	110	275	2.50	
Emperors	107	234	2.19	
Lunartail grouper	66	133	2.02	
Tomato grouper	55	112	2.04	
Groupers	73	173	2.37	*
Inshore groupers	20	47	2.37	*
Black jack	57	121	2.13	
Gray jobfish	202	458	2.27	
Smalltooth jobfish (lehi)	238	504	2.12	
Spiny lobster	212	847	4.00	
Mackerel	77	121	1.58	
Mahimahi	4,250	8,494	2.00	
Black marlin	27	27	1.00	
Blue marlin	5,301	4,241	0.80	
Striped marlin	63	60	0.95	
Octopus	194	484	2.50	*
Moonfish	512	717	1.40	
Yelloweye opakapaka	50	99	2.00	
Parrotfishes	613	1,420	2.31	
Pelagic fishes (unknown)	620	1,550	2.50	
Pomfret	17	36	2.15	
Rudderfishes	39	85	2.18	
Sailfish	142	284	2.00	
Sharks	148	260	1.76	
Blue lined snapper	27	59	2.20	
Flower snapper (gindai)	43	93	2.17	
Humpback snapper	159	379	2.39	
Longtail snapper (onaga)	548	1,253	2.29	
Pink snapper (opakapaka)	15	34	2.25	*
Squirrel snapper (ehu)	197	893	4.53	*
Stone's snapper	68	137	2.00	
Inshore snappers	12	66	5.52	*
Spearfish	92	97	1.05	
Squirrelfishes	71	163	2.29	*
Surgeonfishes/tangs	888	2,005	2.26	*
Sweepers	36	96	2.68	
Sweetlips	13	40	2.99	
Swordfish	1,294	1,928	1.49	
Tilapia	545	799	1.47	*
Bigeye trevally	31	71	2.25	
Albacore tuna	675,979	676,681	1.00	

Table A-4 (continued)
American Samoa March 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye tuna	49,042	54,059	1.10
Dogtooth tuna	61	138	2.26
Kawakawa	13	18	1.41
Skipjack tuna	25,966	15,356	0.59
Yellowfin tuna	111,470	107,418	0.96
Unicornfishes	180	407	2.26
Wahoo	46,049	28,240	0.61
Wrasses	35	78	2.25
TOTAL	927,953	914,616	0.99

* Data replaced or modified by Actual Commercial Landings Data

Table A-5
American Samoa April 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Greater amberjack	184	411	2.23	
Barracudas	177	398	2.25	
Bottomfishes (unknown)	170	379	2.23	
Longnose emperor	771	1,726	2.24	
Orangespot emperor	32	81	2.49	
Redgill emperor	177	394	2.22	
Emperors	212	503	2.37	
Filefishes	42	95	2.25	
Blue lined gindai	39	77	2.00	
Lunartail grouper	70	149	2.12	
Peacock grouper	31	71	2.25	
Tomato grouper	45	93	2.08	
Yellowspot grouper	44	109	2.50	
Groupers	22	68	3.11	*
Inshore groupers	84	188	2.24	*
Black jack	125	250	2.00	
Gray jobfish	231	540	2.34	
Smalltooth jobfish (lehi)	187	390	2.09	
Spiny lobster	152	722	4.76	*
Mahimahi	1,804	3,537	1.96	
Blue marlin	3,772	3,772	1.00	
Striped marlin	188	179	0.95	
Octopus	286	715	2.50	*
Oilfish	9	5	0.59	
Moonfish	192	269	1.40	
Yelloweye opakapaka	314	700	2.23	
Parrotfishes	685	1,769	2.58	*
Pelagic fishes (unknown)	2,767	6,432	2.32	*
Pomfret	17	36	2.15	
Rainbow runner	24	51	2.13	
Reef fishes (unknown)	330	518	1.57	*
Rudderfishes	13	29	2.28	
Sailfish	127	185	1.45	
Bigeye scad	163	298	1.83	
Shrimp	15	30	2.00	*
Blue lined snapper	174	416	2.39	
Flower snapper (gindai)	124	298	2.41	
Humpback snapper	341	766	2.24	
Longtail snapper (onaga)	1,086	2,443	2.25	
Onespot snapper	20	46	2.30	
Squirrel snapper (ehu)	404	1,209	2.99	
Stone's snapper	252	532	2.11	
Yellowtail snapper	56	105	1.86	
Soldierfishes	63	150	2.39	
Spearfish	92	97	1.05	
Squirrelfishes	171	404	2.37	*

Table A-5 (continued)
American Samoa April 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Surgeonfishes/tangs	1,232	2,786	2.26	*
Sweetlips	36	109	3.00	
Swordfish	1,611	4,874	3.02	*
Tilapia	200	218	1.09	*
Albacore tuna	412,175	412,385	1.00	
Bigeye tuna	31,823	35,568	1.12	
Dogtooth tuna	202	454	2.25	
Kawakawa	15	21	1.42	
Skipjack tuna	10,283	6,083	0.59	
Yellowfin tuna	145,743	140,240	0.96	
Unicornfishes	277	628	2.27	*
Wahoo	19,889	12,247	0.62	
Wrasses	18	45	2.51	
TOTAL	639,786	647,291	1.01	

* Data replaced or modified by Actual Commercial Landings Data

Table A-6
American Samoa May 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Greater amberjack	7	15	2.17	
Barracudas	222	474	2.14	
Bottomfishes (unknown)	2,367	5,467	2.31	*
Moray eels	59	132	2.25	
Bigeye emperor	26	59	2.25	
Longnose emperor	155	350	2.25	
Redgill emperor	51	115	2.25	
Emperors	168	429	2.56	
Filefishes	72	159	2.22	
Blue lined gindai	21	42	2.00	
Lunartail grouper	40	81	2.05	
Peacock grouper	17	37	2.25	
Inshore groupers	52	117	2.25	*
Black jack	237	498	2.10	
Jacks	221	550	2.49	
Gray jobfish	266	612	2.30	
Smalltooth jobfish (lehi)	395	834	2.11	
Spiny lobster	216	970	4.48	*
Mackerel	42	79	1.89	
Mahimahi	2,307	4,748	2.06	
Blue marlin	2,803	3,446	1.23	
Octopus	347	930	2.69	*
Moonfish	32	45	1.40	
Yelloweye opakapaka	14	30	2.16	
Parrotfishes	421	1,070	2.54	*
Pelagic fishes (unknown)	1,554	3,538	2.28	*
Pomfret	74	160	2.16	
Spiny pufferfish	12	26	2.24	
Rainbow runner	30	65	2.18	
Reef fishes (unknown)	111	224	2.01	*
Rudderfishes	12	26	2.25	
Bigeye scad	830	1,372	1.65	
Sharks	44	88	2.00	
Black snapper	12	24	2.10	
Blue lined snapper	62	155	2.49	
Flower snapper (gindai)	103	236	2.29	
Humpback snapper	287	712	2.48	
Longtail snapper (onaga)	771	1,814	2.35	
Squirrel snapper (ehu)	243	701	2.89	*
Stone's snapper	145	299	2.06	
Yellowtail snapper	69	131	1.89	
Inshore snappers	14	28	1.99	
Spearfish	31	32	1.05	
Squirrelfishes	144	334	2.31	*
Surgeonfishes/tangs	1,049	2,430	2.32	*
Swordfish	1,428	4,652	3.26	*

Table A-6 (continued)
American Samoa May 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Tilapia	115	135	1.17	*
Albacore tuna	1,069,916	1,073,270	1.00	
Bigeye tuna	40,746	45,611	1.12	
Kawakawa	30	41	1.40	
Skipjack tuna	21,624	13,003	0.60	
Yellowfin tuna	201,787	188,918	0.94	
Unicornfishes	265	620	2.34	*
Wahoo	26,614	16,144	0.61	
TOTAL	1,378,678	1,376,080	1.00	

* Data replaced or modified by Actual Commercial Landings Data

Table A-7
American Samoa June 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Greater amberjack	31	74	2.36	
Barracudas	14	32	2.35	
Moray eels	17	35	2.09	
Longnose emperor	393	885	2.25	
Redgill emperor	441	1,028	2.33	
Emperors	13	29	2.25	
Filefishes	12	27	2.22	
Lunartail grouper	17	38	2.30	
Peacock grouper	11	25	2.24	
Groupers	205	460	2.24	*
Inshore groupers	11	28	2.56	*
Black jack	83	196	2.35	
Jacks	92	217	2.37	
Gray jobfish	51	115	2.25	
Spiny lobster	189	814	4.31	*
Mackerel	954	1,934	2.03	
Mahimahi	1,551	1,873	1.21	
Blue marlin	3,213	4,819	1.50	
Striped marlin	63	60	0.95	
Octopus	55	137	2.50	*
Moonfish	448	627	1.40	
Parrotfishes	418	1,056	2.53	
Terapon perch	28	55	2.00	
Pomfret	41	89	2.16	
Rainbow runner	11	26	2.31	
Rudderfishes	12	28	2.24	
Sailfish	71	103	1.45	
Bigeye scad	628	1,200	1.91	
Blue lined snapper	398	1,002	2.52	*
Humpback snapper	454	1,022	2.25	
Longtail snapper (onaga)	60	135	2.25	*
Onespot snapper	36	82	2.28	
Pink snapper (opakapaka)	25	56	2.25	*
Yellowtail snapper	26	45	1.76	
Spearfish	61	64	1.05	
Squirrelfishes	131	303	2.31	
Surgeonfishes/tangs	904	2,036	2.25	*
Swordfish	949	2,620	2.76	
Tilapia	55	74	1.35	*
Albacore tuna	1,044,036	1,051,230	1.01	
Bigeye tuna	38,489	42,661	1.11	
Dogtooth tuna	36	81	2.25	
Skipjack tuna	20,987	11,778	0.56	
Yellowfin tuna	155,820	152,732	0.98	
Unicornfishes	182	415	2.28	*
Wahoo	32,546	19,684	0.60	
TOTAL	1,304,265	1,302,031	1.00	

* Data replaced or modified by Actual Commercial Landings Data

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Table A-8
American Samoa July 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Greater amberjack	33	82	2.50	
Barracudas	109	249	2.28	
Moray eels	12	25	2.16	
Longnose emperor	406	931	2.29	
Orangespot emperor	25	55	2.25	
Emperors	525	1,210	2.30	
Lunartail grouper	21	51	2.47	
Inshore groupers	100	305	3.04	*
Black jack	133	304	2.28	
Jacks	144	339	2.35	
Gray jobfish	74	170	2.30	*
Smalltooth jobfish (lehi)	174	401	2.31	
Spiny lobster	199	967	4.86	*
Mackerel	291	426	1.46	
Mahimahi	1,744	1,552	0.89	
Blue marlin	3,036	4,857	1.60	
Octopus	124	356	2.88	*
Moonfish	192	269	1.40	
Parrotfishes	388	976	2.51	*
Terapon perch	13	25	2.00	
Pomfret	181	391	2.16	
Spiny pufferfish	13	28	2.25	
Rudderfishes	14	32	2.27	
Sailfish	71	57	0.80	
Bigeye scad	143	321	2.25	
Sergeant major	216	486	2.25	
Blue lined snapper	187	427	2.28	*
Flower snapper (gindai)	127	295	2.32	*
Humpback snapper	485	1,115	2.30	
Longtail snapper (onaga)	85	191	2.25	
Squirrel snapper (ehu)	145	435	3.00	*
Spearfish	31	32	1.05	
Squirrelfishes	119	279	2.35	*
Surgeonfishes/tangs	1,017	2,382	2.34	*
Swordfish	660	1,511	2.29	
Bigeye trevally	13	31	2.39	
Albacore tuna	1,294,587	1,296,804	1.00	
Bigeye tuna	32,676	37,140	1.14	
Dogtooth tuna	70	158	2.25	
Kawakawa	1	1	1.44	
Skipjack tuna	19,236	10,718	0.56	
Yellowfin tuna	142,618	133,606	0.94	

Table A-8 (continued)
American Samoa July 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Unicornfishes	125	286	2.28	*
Wahoo	32,419	19,561	0.60	
TOTAL	1,532,981	1,519,836	0.99	

* Data replaced or modified by Actual Commercial Landings Data

Table A-9
American Samoa August 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Amberjack	25	62	2.50	
Greater amberjack	42	108	2.56	
Barracudas	56	150	2.66	
Bottomfishes (unknown)	2,692	6,446	2.39	*
Crabs	13	31	2.39	
Longnose emperor	543	1,427	2.63	
Orangespot emperor	108	277	2.56	
Redgill emperor	111	305	2.75	
Emperors	455	1,078	2.37	
Lunartail grouper	64	164	2.56	
Peacock grouper	12	33	2.76	
Groupers	403	955	2.37	*
Inshore groupers	18	43	2.40	*
Black jack	24	63	2.65	
Jacks	43	90	2.10	
Gray jobfish	217	538	2.48	
Smalltooth jobfish (lehi)	101	277	2.75	
Spiny lobster	180	903	5.03	*
Mackerel	176	278	1.58	
Mahimahi	1,632	3,121	1.91	
Blue marlin	3,364	2,624	0.78	
Striped marlin	63	60	0.95	
Octopus	188	475	2.52	*
Moonfish	416	582	1.40	
Parrotfishes	292	698	2.39	*
Pomfret	140	302	2.16	
Sailfish	479	695	1.45	
Bigeye scad	214	362	1.69	
Sharks	153	92	0.60	
Blue lined snapper	281	660	2.35	*
Flower snapper (gindai)	22	58	2.64	
Humpback snapper	775	1,842	2.38	
Longtail snapper (onaga)	73	175	2.39	
Onespot snapper	11	27	2.50	
Squirrel snapper (ehu)	75	197	2.62	*
Soldierfishes	24	60	2.50	
Spearfish	307	322	1.05	
Squirrelfishes	48	110	2.28	*
Surgeonfishes/tangs	657	1,524	2.32	*
Swordfish	1,046	3,165	3.03	*
Bigeye trevally	118	283	2.40	
Albacore tuna	1,286,174	1,288,422	1.00	
Bigeye tuna	76,675	84,774	1.11	
Dogtooth tuna	237	534	2.25	
Kawakawa	1	1	1.33	
Skipjack tuna	38,342	20,970	0.55	

Table A-9 (continued)
American Samoa August 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Yellowfin tuna	101,429	95,803	0.94	
Unicornfishes	92	208	2.25	*
Wahoo	50,144	30,339	0.61	
TOTAL	1,568,755	1,551,710	0.99	

* Data replaced or modified by Actual Commercial Landings Data

Table A-10
American Samoa September 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Greater amberjack	44	120	2.75	
Barracudas	95	256	2.71	
Bottomfishes (unknown)	881	2,086	2.37	*
Longnose emperor	109	267	2.45	
Redgill emperor	125	296	2.37	
Emperors	127	427	3.37	
Lunartail grouper	22	46	2.11	
Groupers	62	148	2.39	*
Inshore groupers	16	37	2.30	*
Black jack	29	64	2.22	
Jacks	12	28	2.36	
Gray jobfish	276	648	2.35	
Smalltooth jobfish (lehi)	24	56	2.31	
Spiny lobster	210	1,023	4.87	
Mackerel	573	658	1.15	
Mahimahi	2,465	4,807	1.95	
Blue marlin	2,289	2,243	0.98	
Striped marlin	188	179	0.95	
Octopus	185	462	2.50	*
Moonfish	384	538	1.40	
Parrotfishes	288	700	2.43	*
Pomfret	25	53	2.16	
Rainbow runner	30	82	2.75	
Bigeye scad	21	36	1.74	
Sergeant major	45	100	2.25	
Blue lined snapper	170	400	2.35	*
Humpback snapper	367	863	2.35	
Inshore snappers	36	98	2.75	
Squirrelfishes	109	249	2.29	*
Surgeonfishes/tangs	1,068	2,470	2.31	*
Sweetlips	16	47	3.00	
Swordfish	1,294	3,520	2.72	
Trevallys	17	42	2.46	
Albacore tuna	1,244,719	1,247,244	1.00	
Bigeye tuna	20,858	23,145	1.11	
Dogtooth tuna	43	96	2.25	
Skipjack tuna	50,133	28,772	0.57	
Yellowfin tuna	92,361	87,750	0.95	
Unicornfishes	202	457	2.27	*
Wahoo	36,488	22,032	0.60	
TOTAL	1,456,401	1,432,547	0.98	

* Data replaced or modified by Actual Commercial Landings Data

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Table A-11
American Samoa October 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Greater amberjack	180	451	2.50	
Barracudas	44	103	2.35	
Bottomfishes (unknown)	1,145	3,029	2.65	*
Crabs	29	53	1.79	
Bigeye emperor	15	36	2.42	
Longnose emperor	653	1,466	2.24	
Orangespot emperor	57	142	2.50	
Redgill emperor	171	385	2.26	
Emperors	513	1,232	2.40	
Filefishes	75	165	2.21	
Goatfishes	3	7	2.43	
Blacktip grouper	1	1	2.20	
Lunartail grouper	181	417	2.30	
Groupers	159	372	2.35	*
Inshore groupers	26	69	2.68	*
Black jack	74	163	2.22	
Jacks	76	180	2.37	
Gray jobfish	422	1,013	2.40	
Smalltooth jobfish (lehi)	676	1,588	2.35	
Spiny lobster	169	802	4.75	
Mackerel	345	585	1.70	
Mahimahi	1,530	2,142	1.40	
Blue marlin	5,334	5,225	0.98	
Mullets	34	85	2.50	*
Octopus	137	343	2.50	*
Oilfish	24	14	0.60	
Moonfish	256	358	1.40	
Parrotfishes	488	1,245	2.55	*
Pomfret	74	160	2.16	
Rainbow runner	62	130	2.10	
Sailfish	155	494	3.19	*
Bigeye scad	127	252	1.98	
Black snapper	39	82	2.10	
Blue lined snapper	219	526	2.40	*
Flower snapper (gindai)	400	1,115	2.79	*
Humpback snapper	584	1,400	2.40	
Longtail snapper (onaga)	120	288	2.40	
Squirrel snapper (ehu)	72	242	3.36	
Stone's snapper	45	114	2.50	
Yellowtail snapper	113	199	1.76	
Spearfish	123	129	1.05	
Squirrelfishes	53	120	2.25	
Surgeonfishes/tangs	773	1,891	2.45	*
Sweepers	1,207	3,320	2.75	
Swordfish	2,157	4,551	2.11	
Tilapia	30	41	1.35	*

Table A-11 (continued)
American Samoa October 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Bigeye trevally	28	67	2.40	
Trevallys	59	136	2.30	
Albacore tuna	1,355,028	1,357,685	1.00	
Bigeye tuna	52,980	58,523	1.10	
Dogtooth tuna	65	147	2.25	
Skipjack tuna	76,406	41,688	0.55	
Yellowfin tuna	210,007	192,657	0.92	
Unicornfishes	131	303	2.32	*
Wahoo	30,492	18,362	0.60	
Wrasses	25	64	2.55	
TOTAL	1,744,389	1,706,353	0.98	

* Data replaced or modified by Actual Commercial Landings Data

Table A-12
American Samoa November 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Greater amberjack	80	182	2.27	
Barracudas	42	99	2.39	
Bottomfishes (unknown)	112	273	2.44	*
Giant clam	362	362	1.00	
Longnose emperor	1,091	2,617	2.40	
Orangespot emperor	162	405	2.49	
Emperors	63	152	2.40	
Blue lined gindai	79	158	2.00	
Goatfishes	124	299	2.40	
Lunartail grouper	31	75	2.40	
Tomato grouper	17	38	2.28	
Groupers	66	163	2.47	*
Inshore groupers	28	64	2.25	*
Black jack	42	93	2.22	
Jacks	93	221	2.37	
Gray jobfish	432	1,036	2.40	
Smalltooth jobfish (lehi)	1,001	2,312	2.31	
Spiny lobster	84	399	4.76	*
Mackerel	795	1,053	1.33	
Mahimahi	580	1,161	2.00	
Black marlin	383	383	1.00	
Blue marlin	7,544	7,393	0.98	
Striped marlin	251	239	0.95	
Octopus	133	349	2.63	*
Moonfish	512	717	1.40	
Parrotfishes	504	1,360	2.70	*
Terapon perch	19	38	1.99	
Pomfret	33	71	2.16	
Rainbow runner	1	3	2.08	
Reef fishes (unknown)	2,808	7,008	2.50	*
Rudderfishes	23	53	2.29	
Sailfish	142	499	3.52	
Bigeye scad	46	84	1.81	
Blue lined snapper	273	655	2.40	*
Flower snapper (gindai)	39	94	2.40	*
Humpback snapper	255	611	2.40	
Longtail snapper (onaga)	104	248	2.40	*
Pink snapper (opakapaka)	33	79	2.40	*
Squirrel snapper (ehu)	168	403	2.40	
Soldierfishes	857	2,271	2.65	
Squirrelfishes	59	139	2.36	
Surgeonfishes/tangs	726	1,824	2.51	
Sweetlips	28	85	3.00	
Swordfish	2,243	8,973	4.00	
Tilapia	41	51	1.25	*
Bigeye trevally	35	84	2.40	

Table A-12 (continued)
American Samoa November 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bluefin trevally	10	25	2.49
Albacore tuna	988,912	989,653	1.00
Bigeye tuna	62,589	69,668	1.11
Dogtooth tuna	85	192	2.25
Skipjack tuna	42,151	23,399	0.56
Yellowfin tuna	65,660	60,311	0.92
Unicornfishes	70	158	2.27
Wahoo	25,338	15,770	0.62
TOTAL	1,207,358	1,204,050	1.00

* Data replaced or modified by Actual Commercial Landings Data

Table A-13
American Samoa December 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)	
Greater amberjack	201	346	1.72	
Barracudas	59	152	2.58	
Giant clam	128	128	1.00	
Moray eels	68	135	2.00	
Longnose emperor	57	157	2.75	
Emperors	80	190	2.38	
Goatfishes	4	9	2.51	
Lunartail grouper	87	238	2.75	
Groupers	30	72	2.40	*
Jacks	16	37	2.37	
Gray jobfish	136	368	2.71	
Spiny lobster	54	256	4.77	*
Mackerel	530	838	1.58	
Mahimahi	854	1,477	1.73	
Blue marlin	7,646	7,264	0.95	
Striped marlin	550	523	0.95	*
Octopus	113	283	2.50	*
Moonfish	352	493	1.40	
Parrotfishes	276	687	2.49	*
Pomfret	66	142	2.16	
Sailfish	465	442	0.95	*
Bigeye scad	31	43	1.38	
Blue lined snapper	120	288	2.40	*
Flower snapper (gindai)	15	36	2.40	
Humpback snapper	154	370	2.40	*
Longtail snapper (onaga)	23	55	2.39	*
Squirrel snapper (ehu)	142	425	2.99	*
Stone's snapper	47	128	2.75	
Soldierfishes	28	77	2.75	
Spearfish	61	64	1.05	
Squirrelfishes	73	167	2.30	*
Surgeonfishes/tangs	737	1,674	2.27	*
Swordfish	1,035	3,448	3.33	
Trevallys	9	23	2.75	
Albacore tuna	906,185	907,012	1.00	
Bigeye tuna	29,197	32,248	1.10	
Skipjack tuna	19,359	10,756	0.56	
Yellowfin tuna	45,547	44,108	0.97	
Unicornfishes	106	244	2.30	*
Wahoo	49,330	30,041	0.61	
TOTAL	1,063,967	1,045,440	0.98	

* Data replaced or modified by Actual Commercial Landings Data

The following are summary charts of the major species and species groups by month:

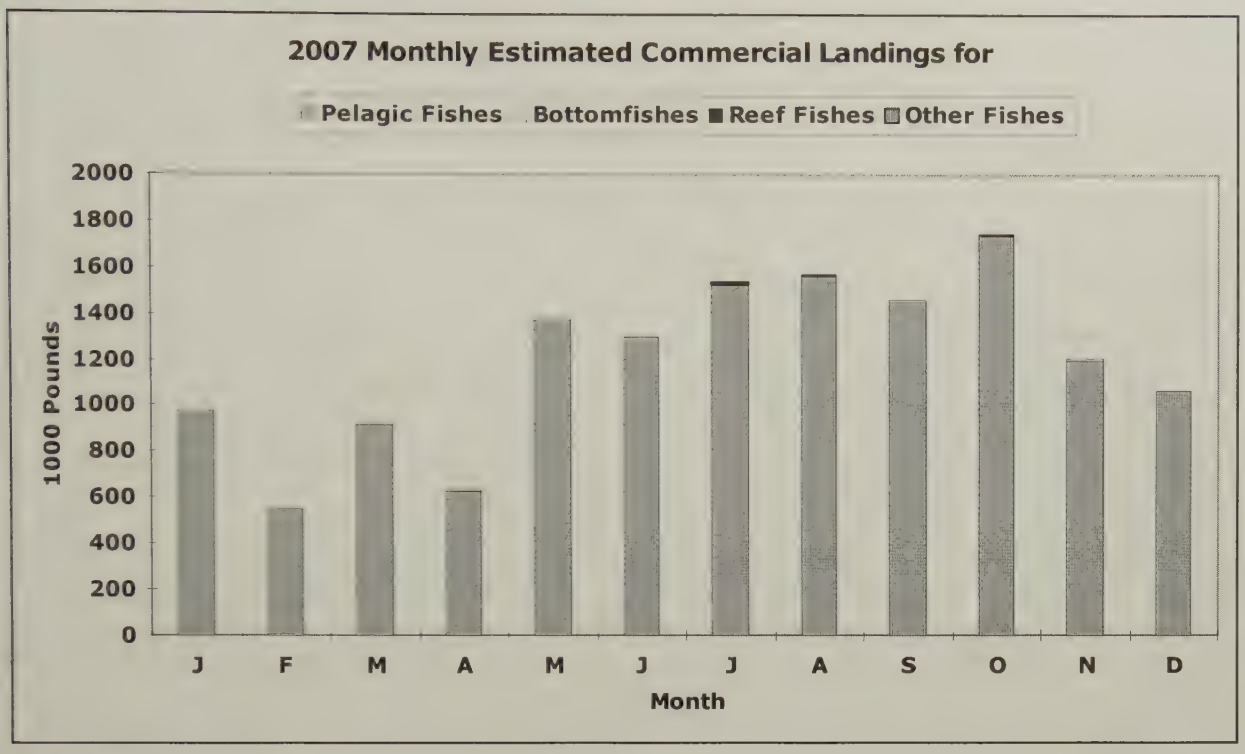


Figure A-1-1

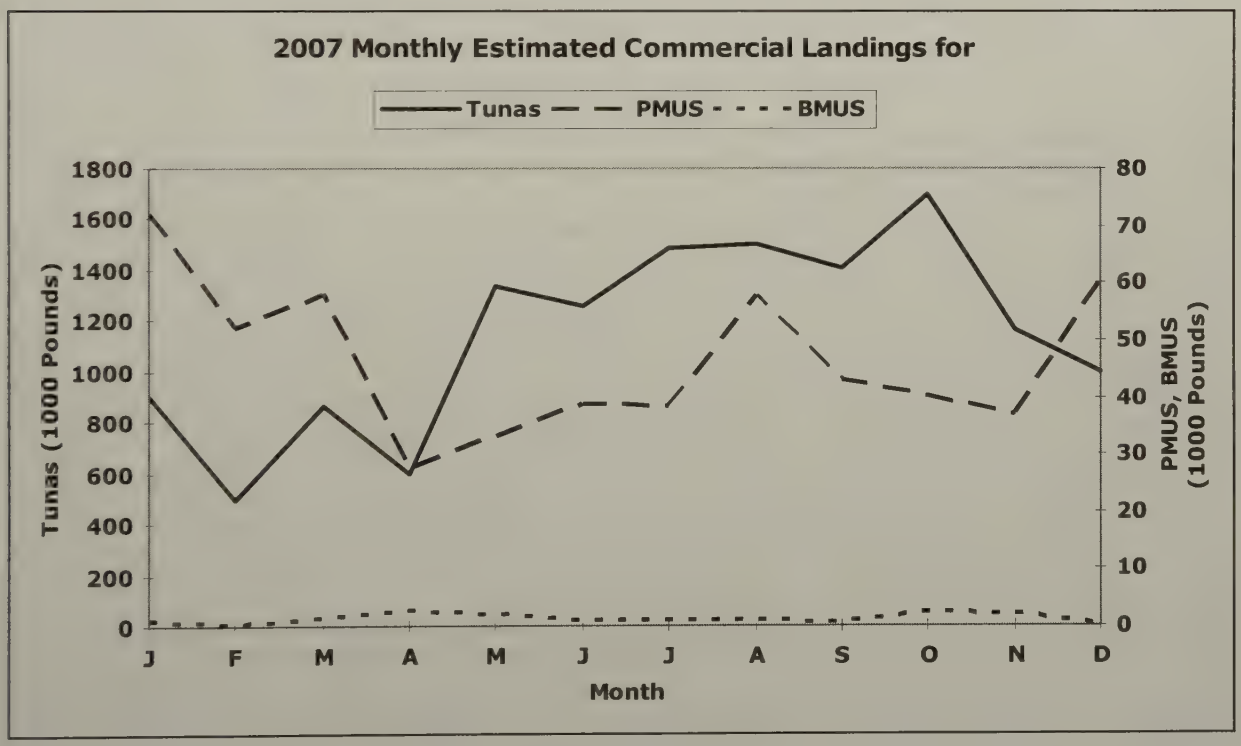


Figure A-1-2

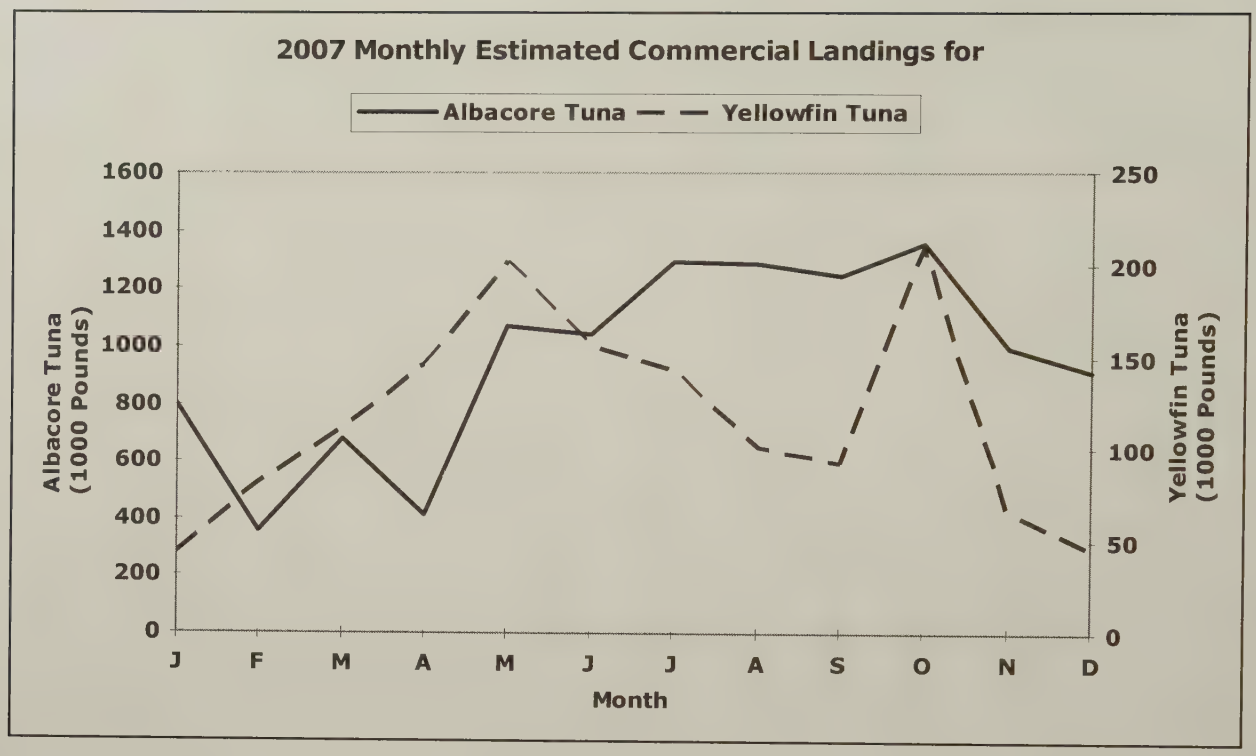


Figure A-1-3

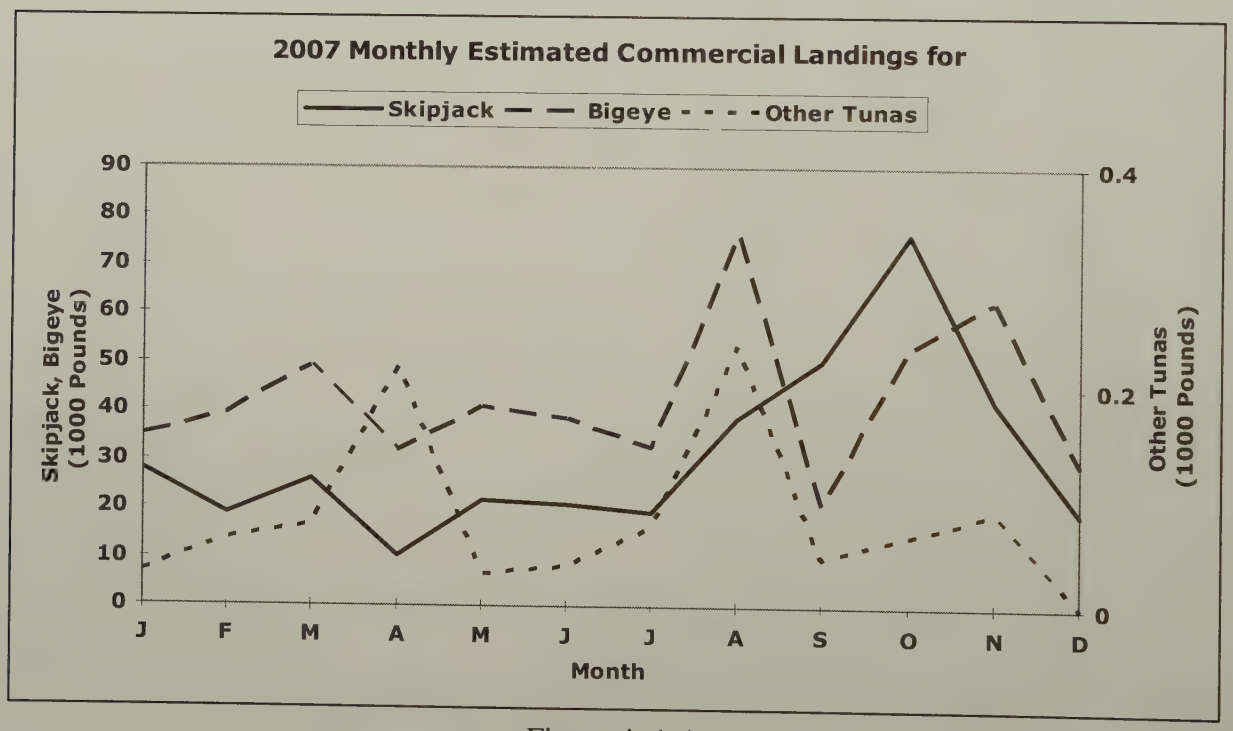


Figure A-1-4

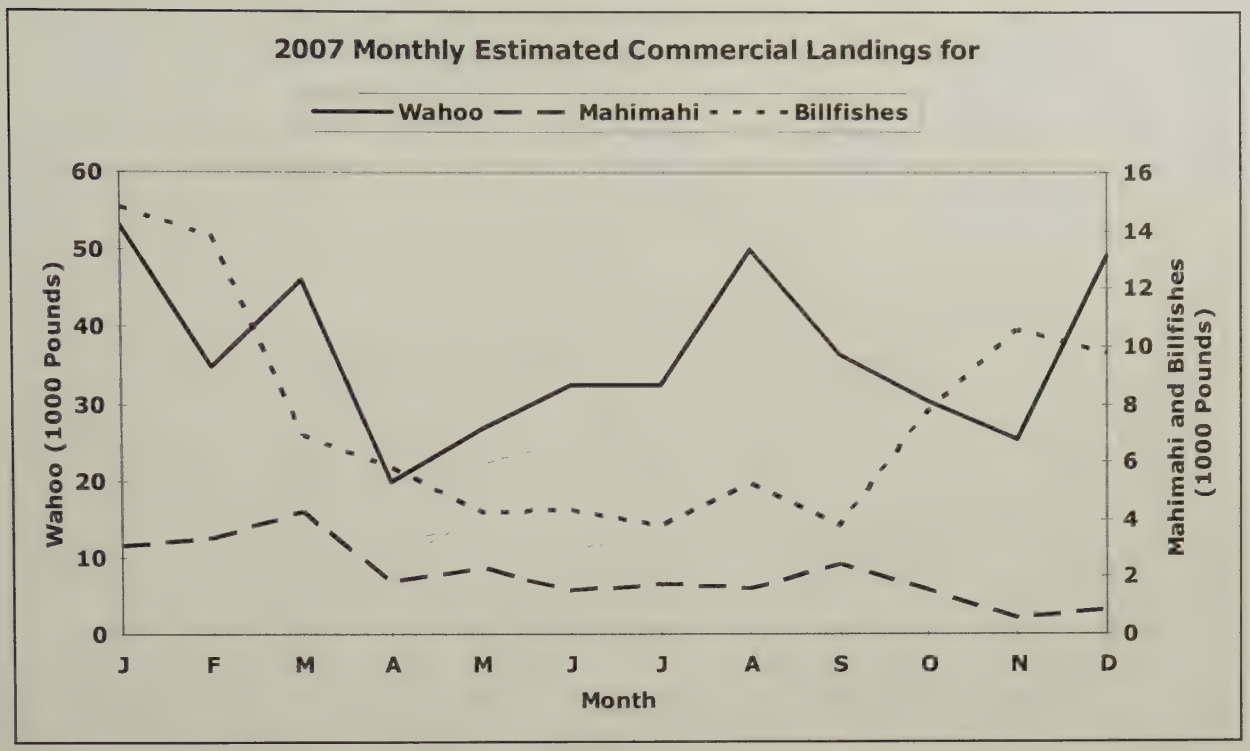

2007 Monthly Estimated Commercial Landings for
Wahoo
Mahimahi
Billfishes
Wahoo (1000 Pounds)
Mahimahi and Billfishes (1000 Pounds)
Month
J
F
M
A
M
J
J
A
S
O
N
D
0
10
20
30
40
50
60
0
2
4
6
8
10
12
14
16

Figure A-1-5

The following are seasonality plots for the major species or species groups, showing the average weight landed during each month for all years combined:

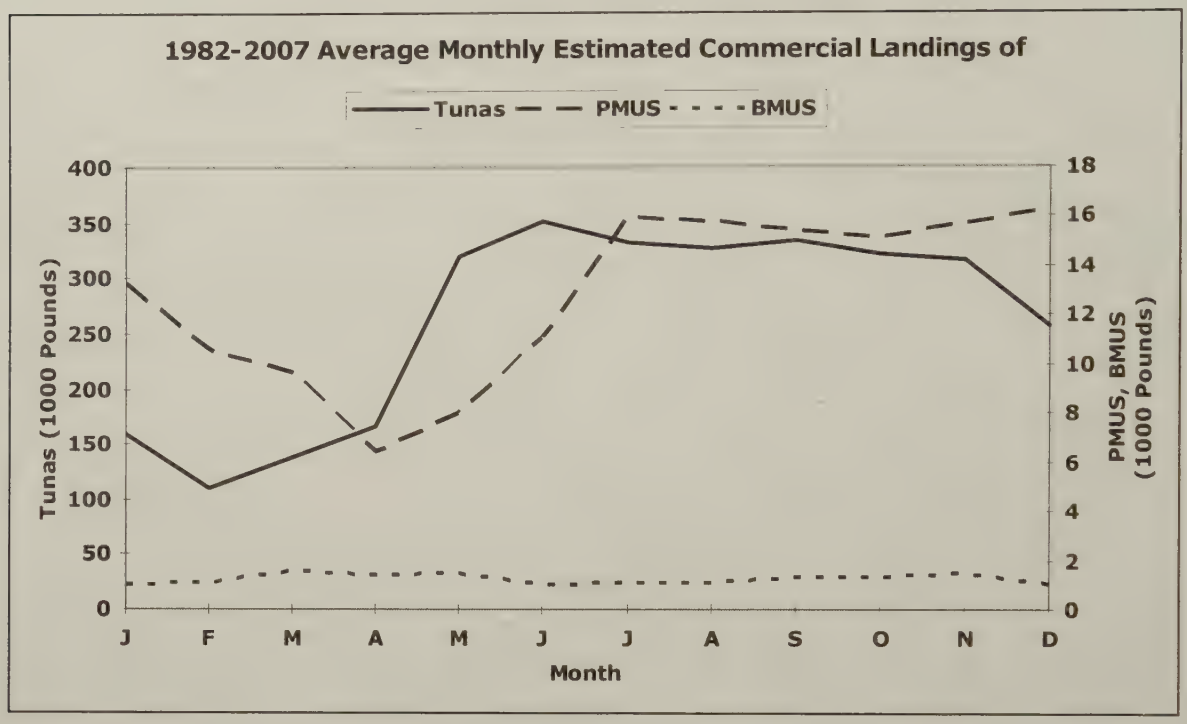


Figure A-2-1

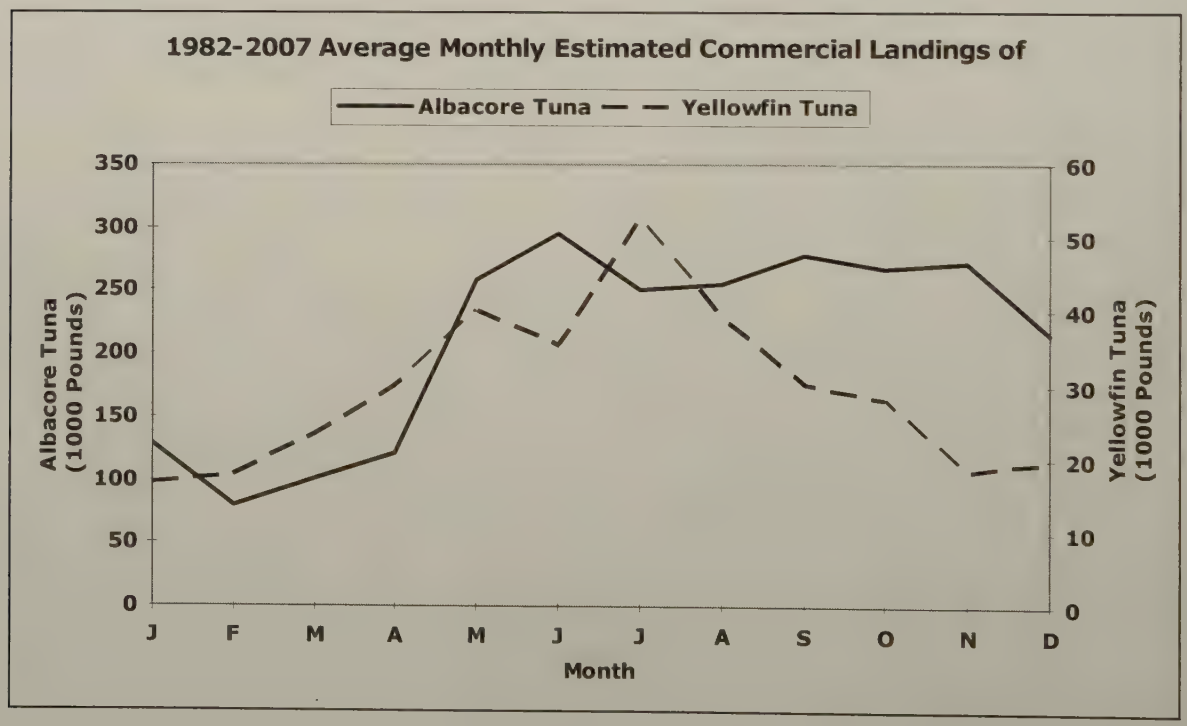


Figure A-2-2

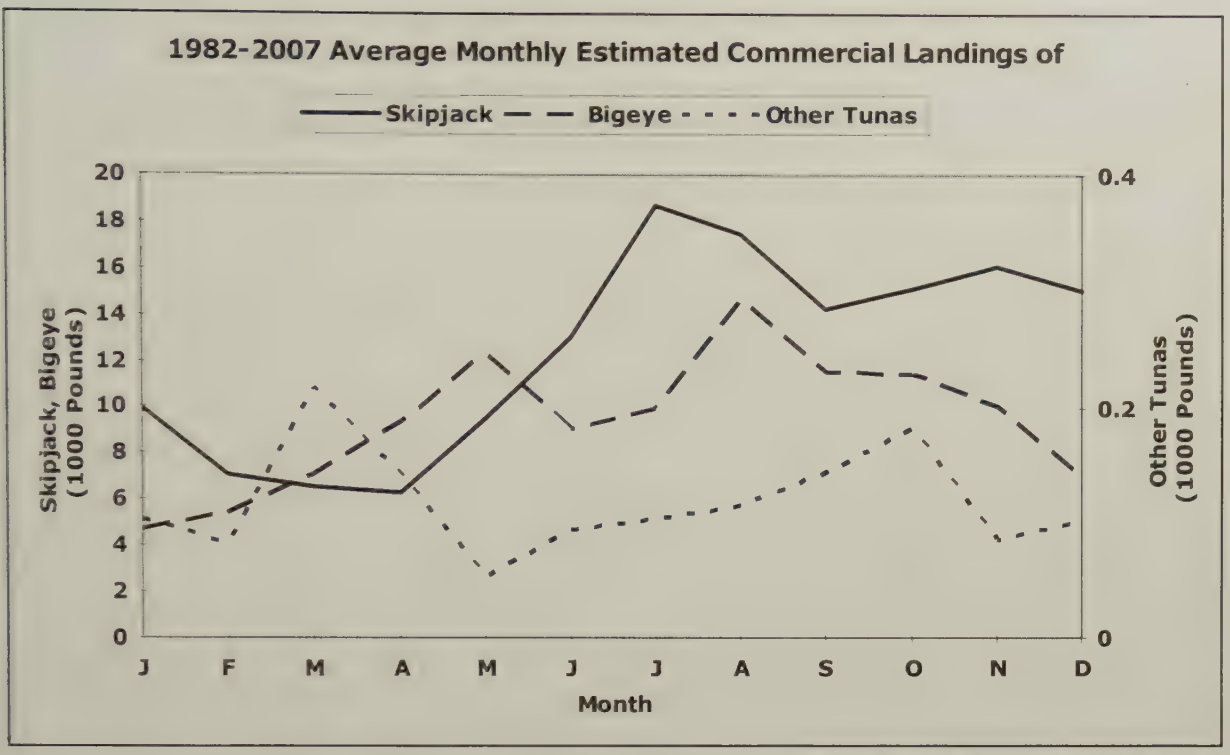


Figure A-2-3

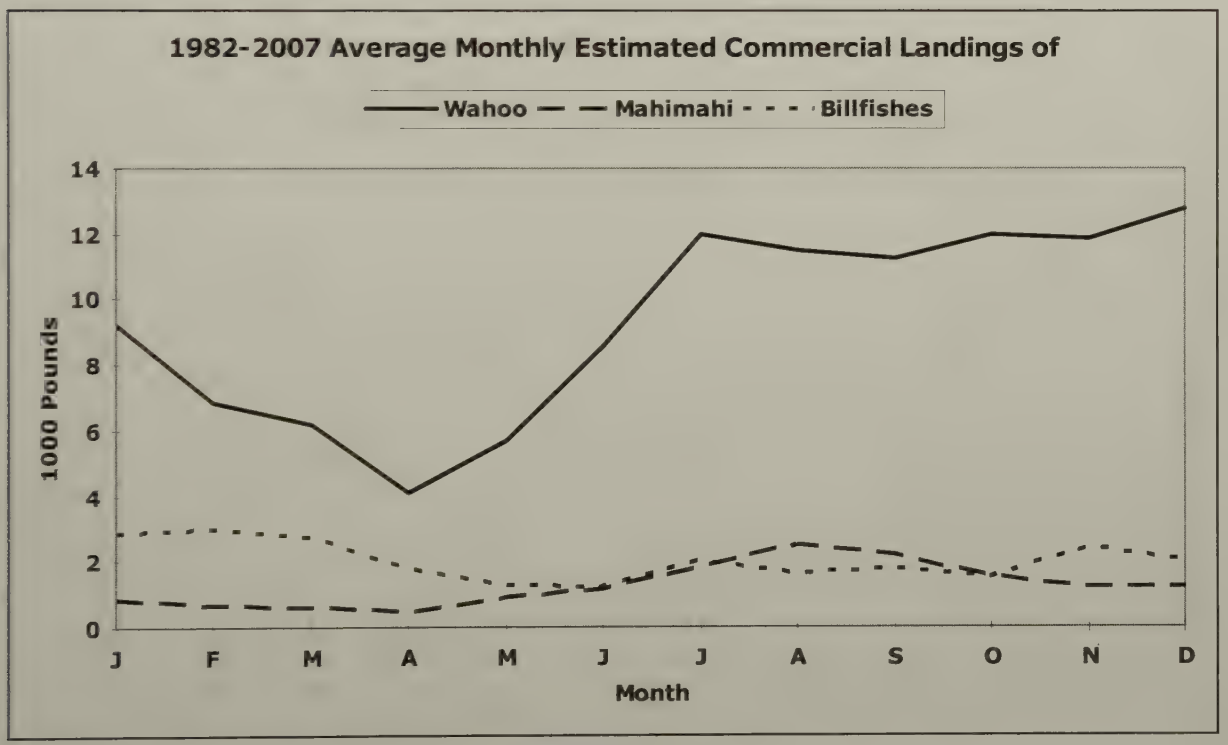
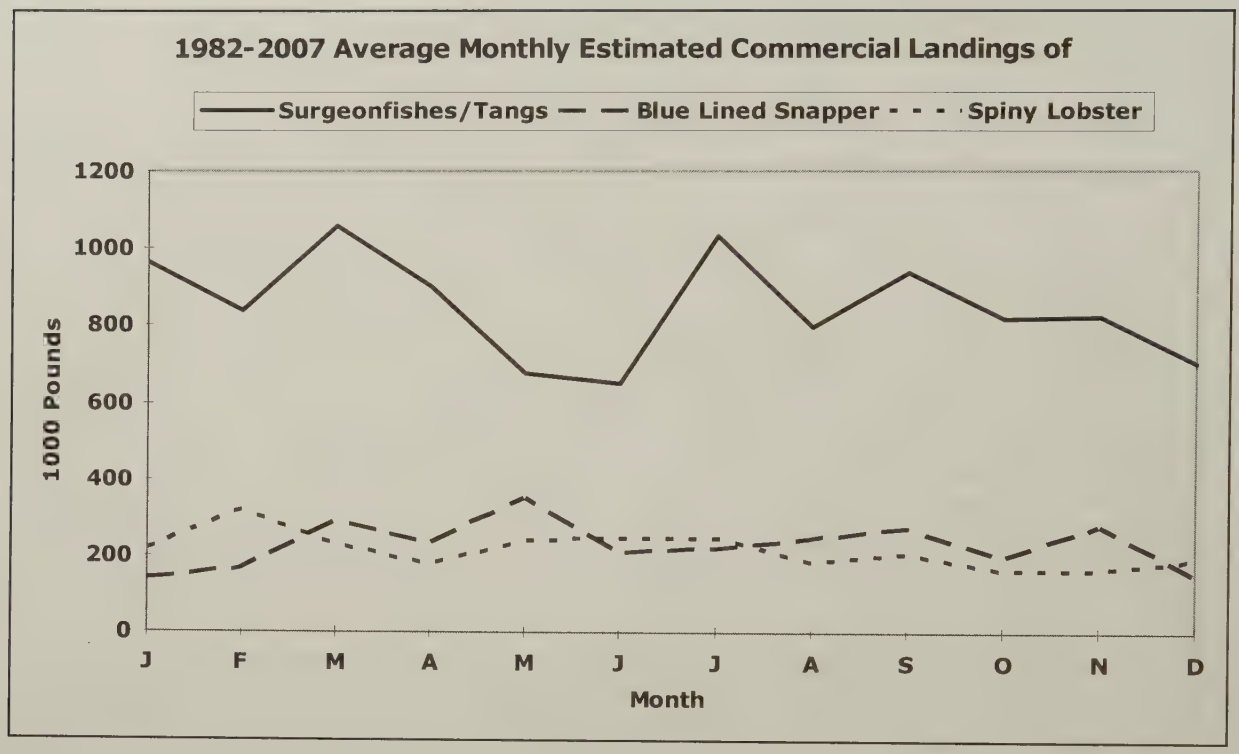


Figure A-2-4


1982-2007 Average Monthly Estimated Commercial Landings of
Surgeonfishes/Tangs
Blue Lined Snapper
Spiny Lobster
1000 Pounds
1200
1000
800
600
400
200
0
J
F
M
A
M
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S
O
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Month

Figure A-2-5

The following graphs plot annual summary statistics to illustrate the variability among years:

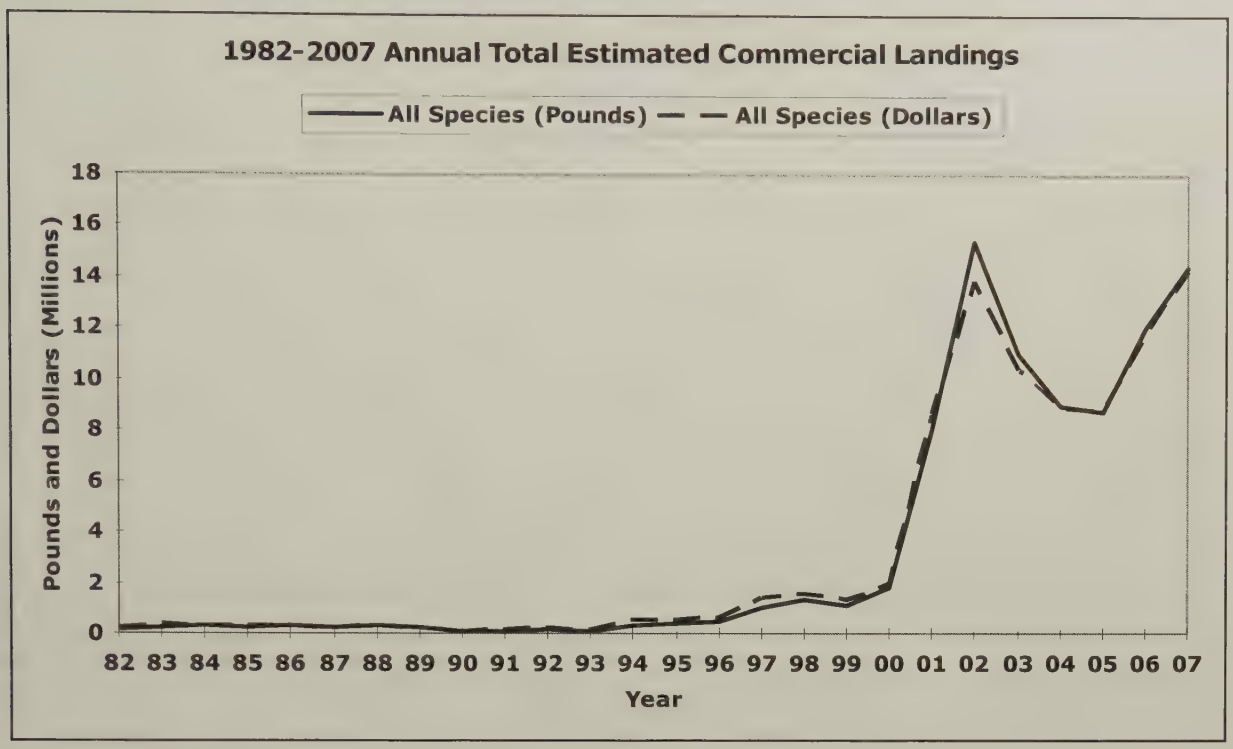


Figure A-3-1

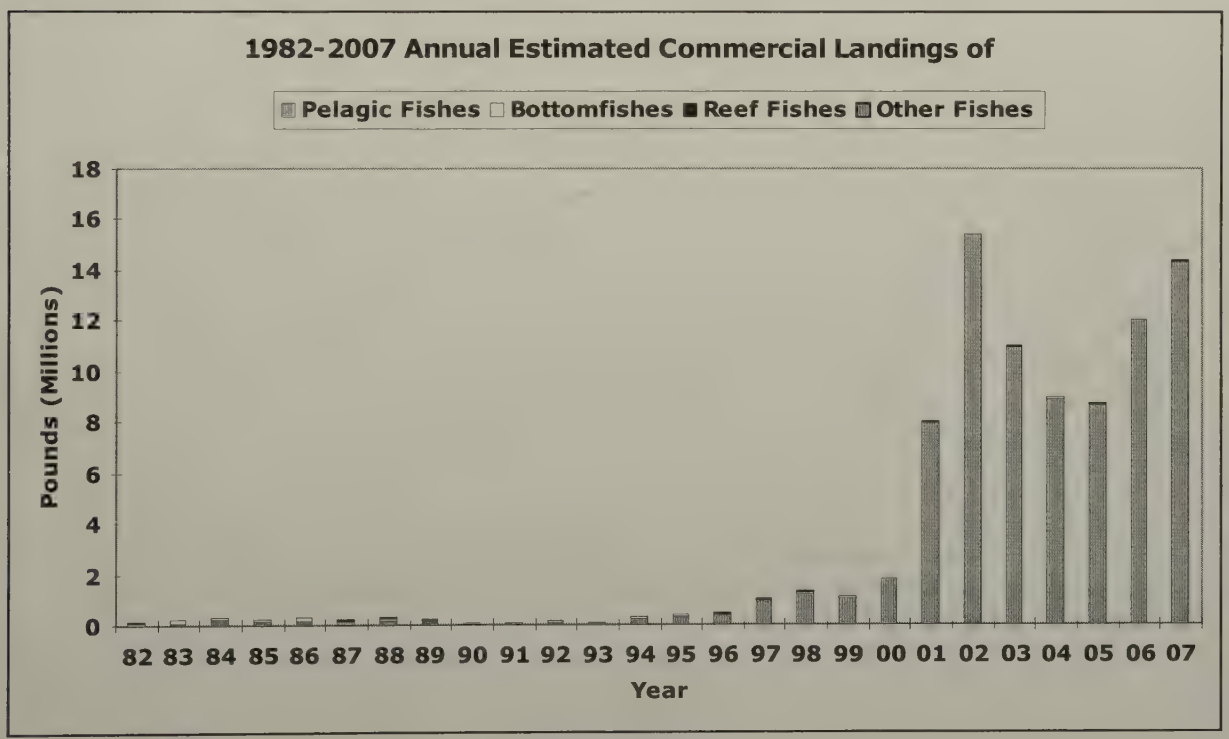
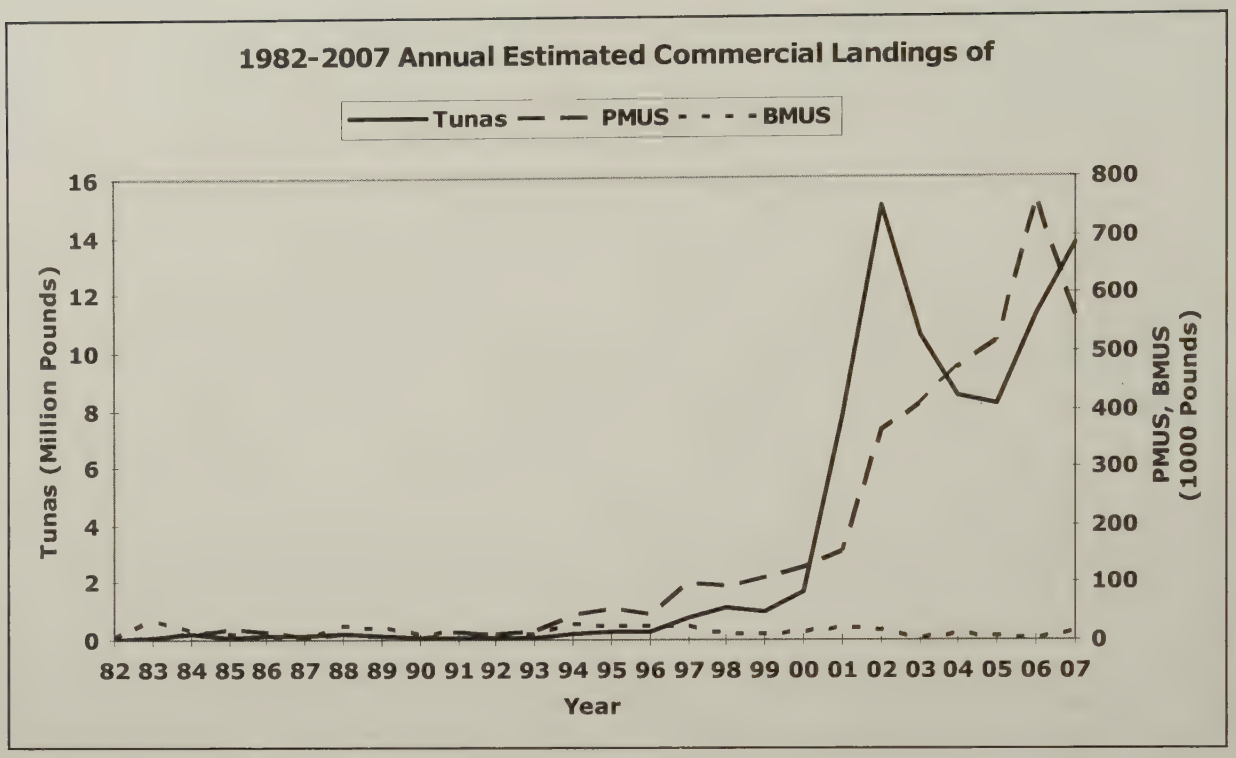


Figure A-3-2



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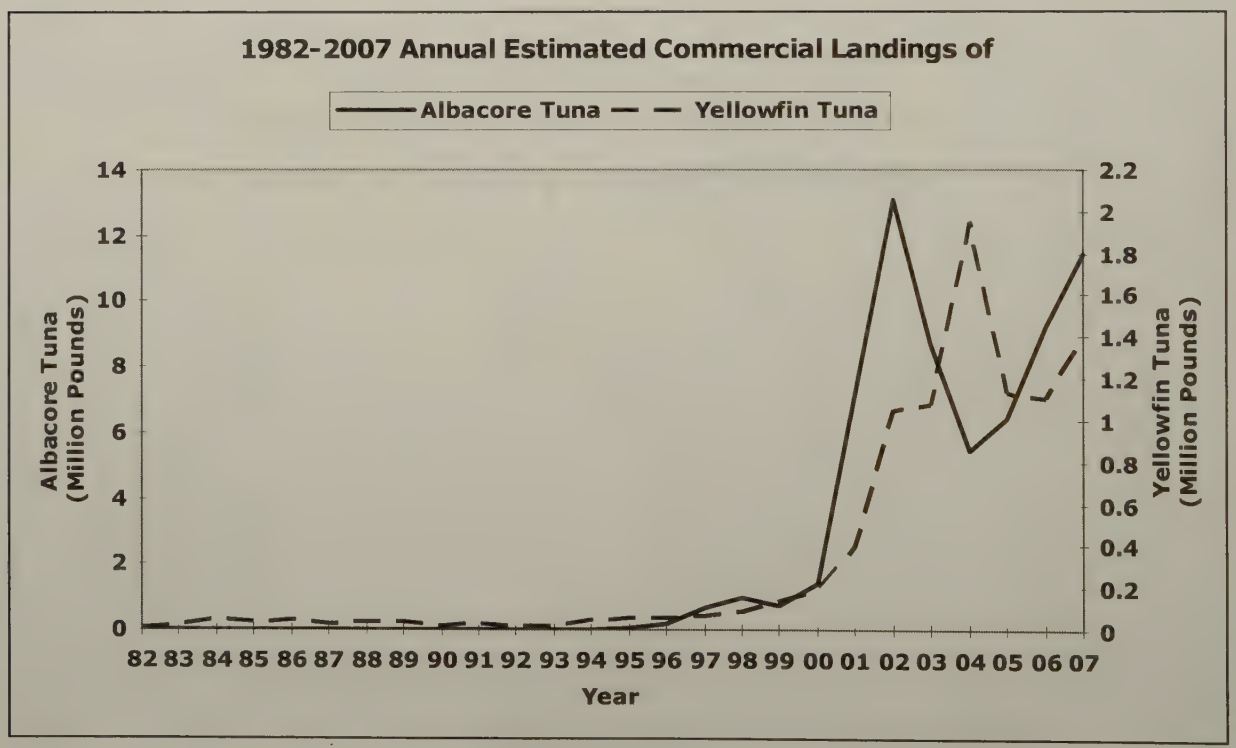

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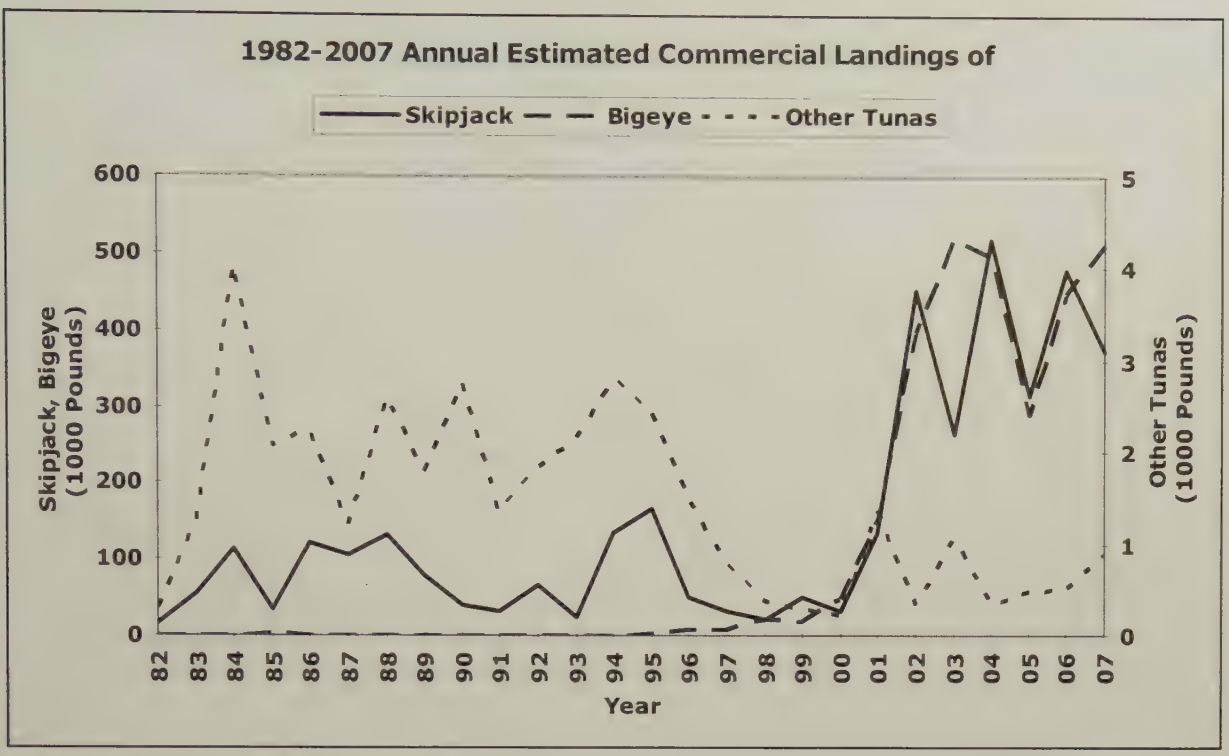

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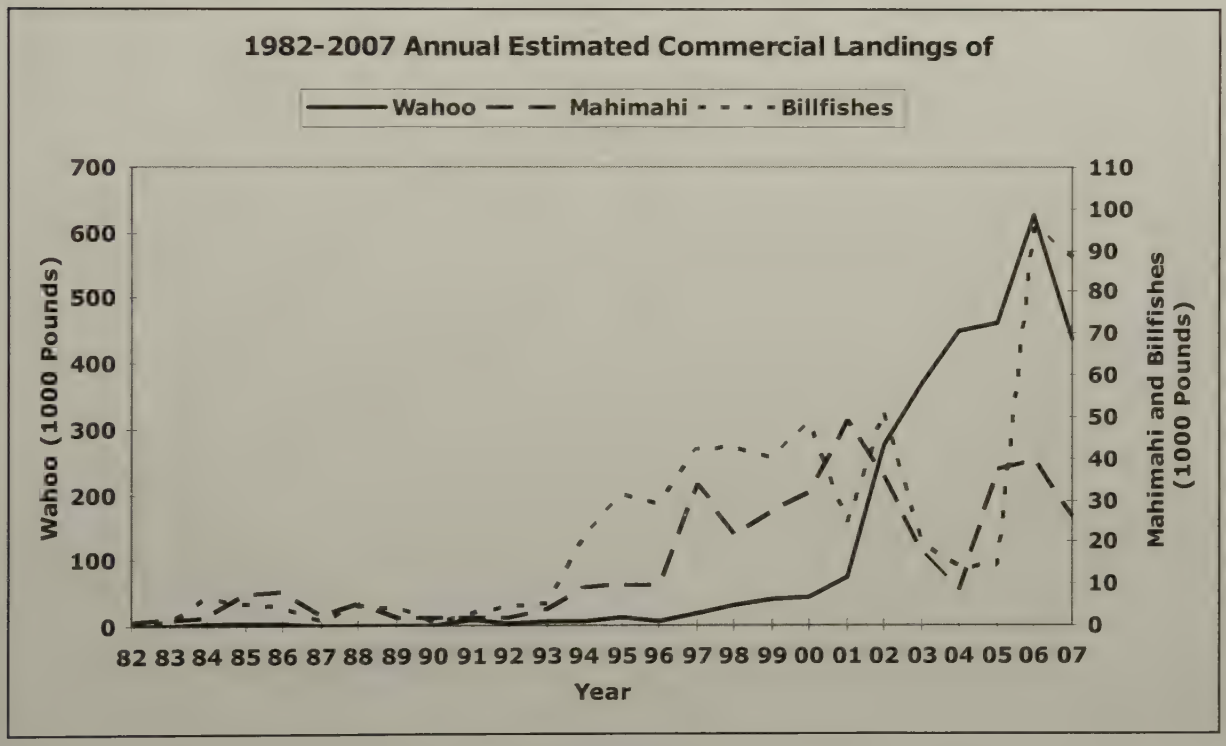


Figure A-3-6

The following graphs plot the monthly landings of some of the major commercially important species and document monthly fluctuations in landings over the time series:

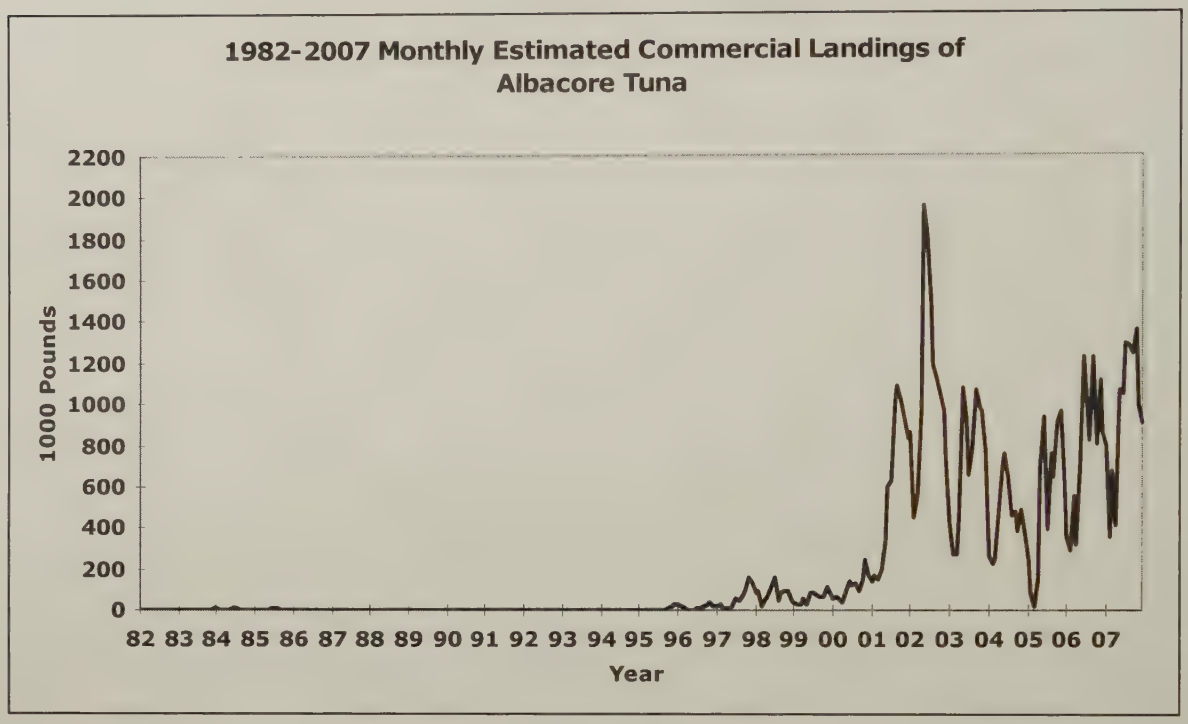
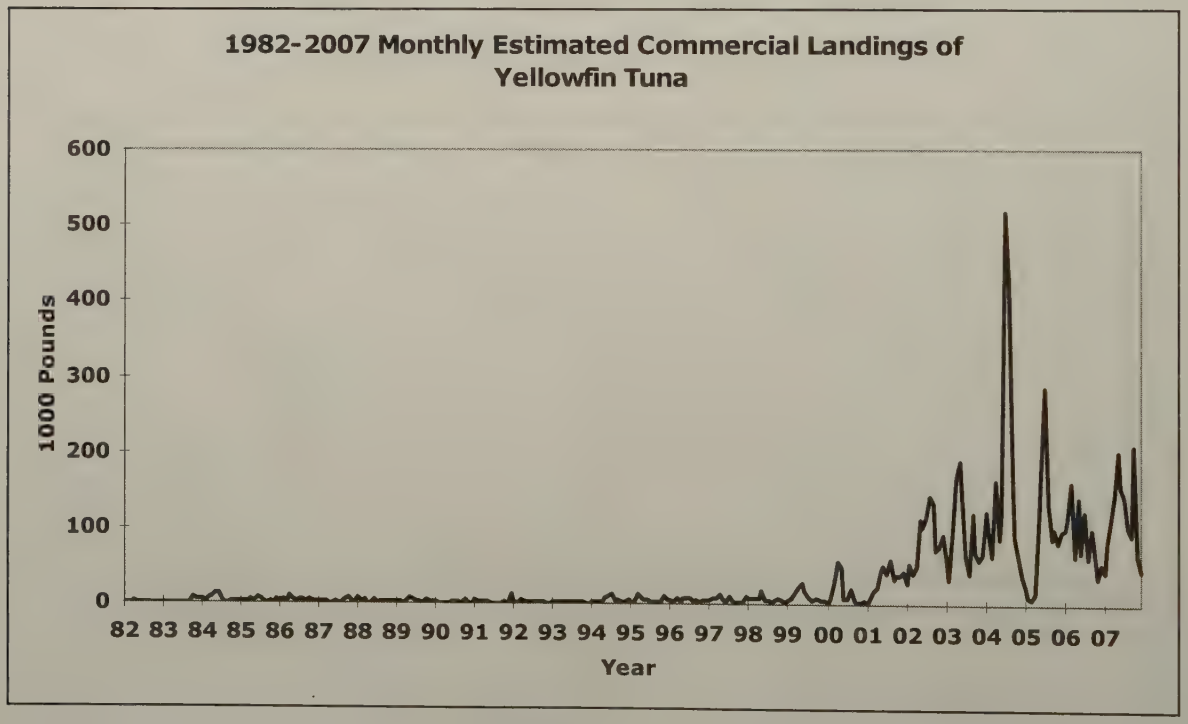


Figure A-4-1



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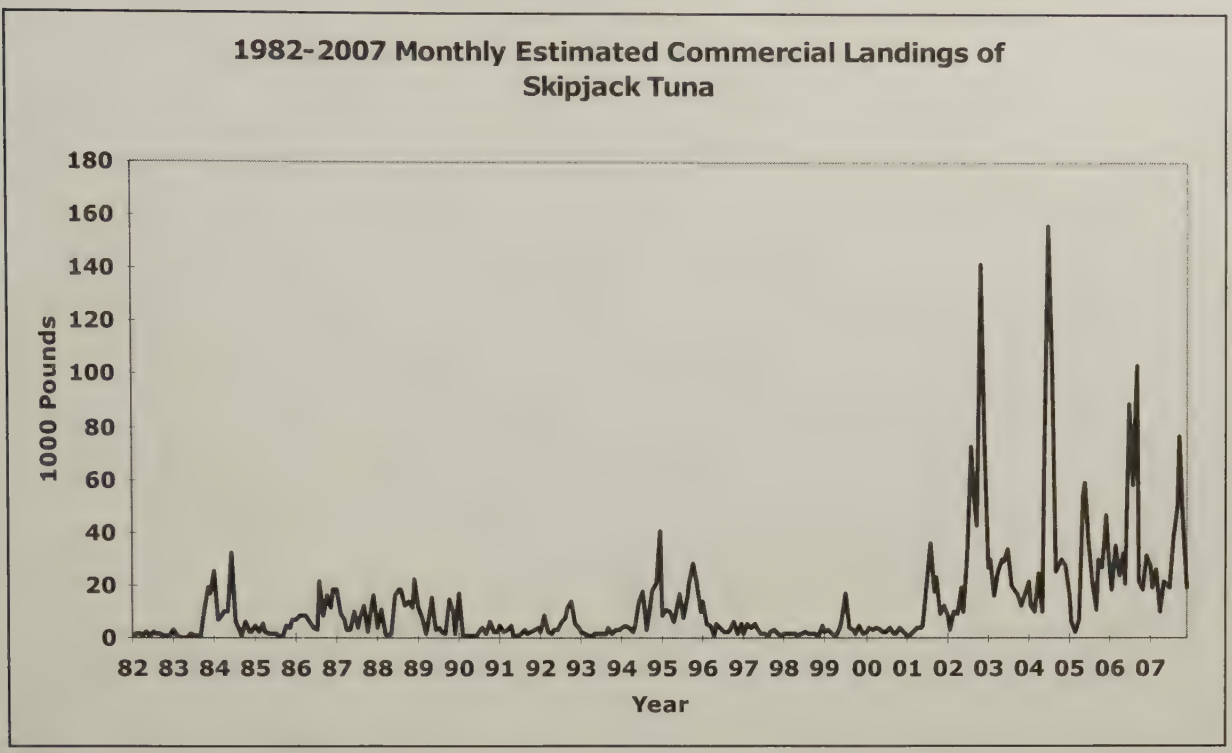

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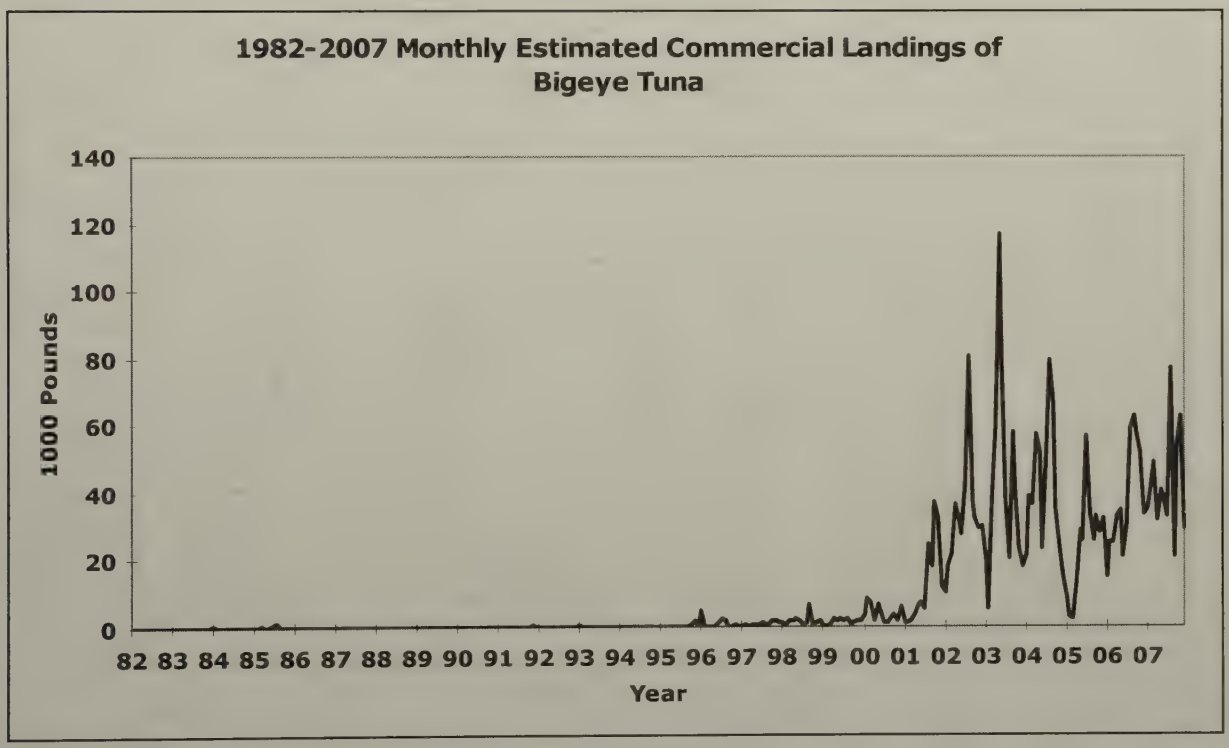

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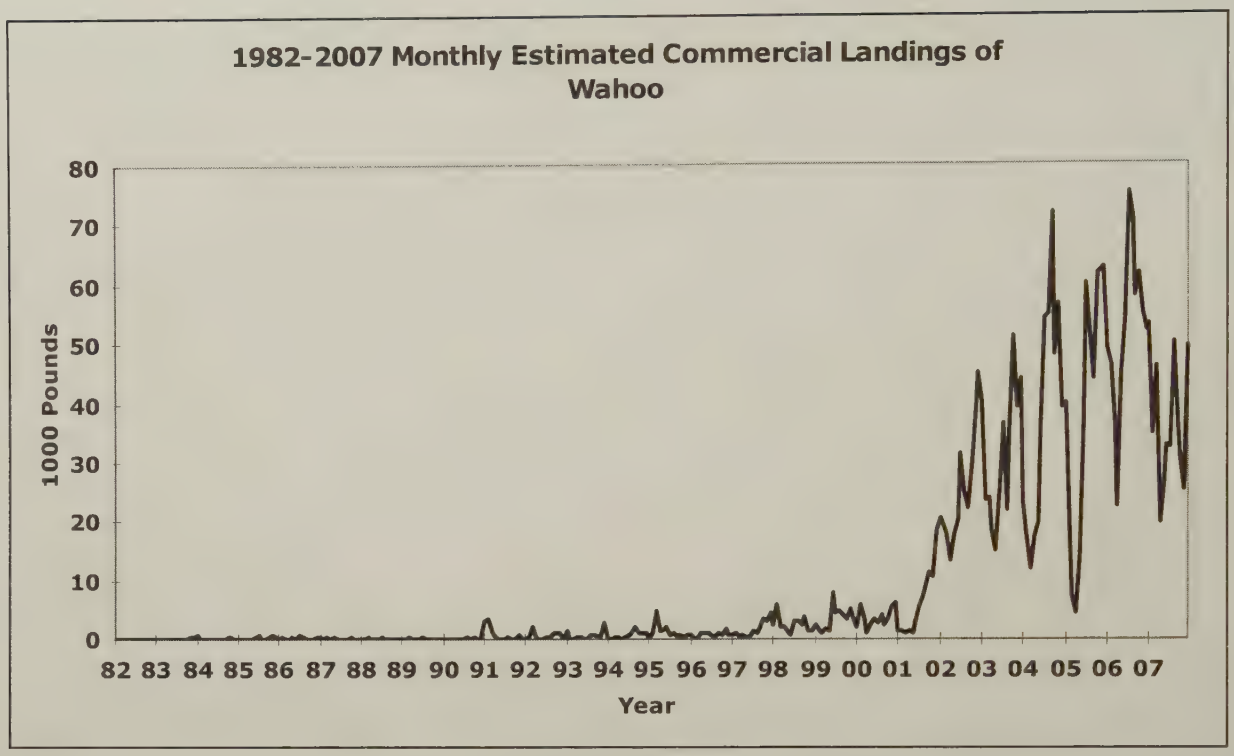

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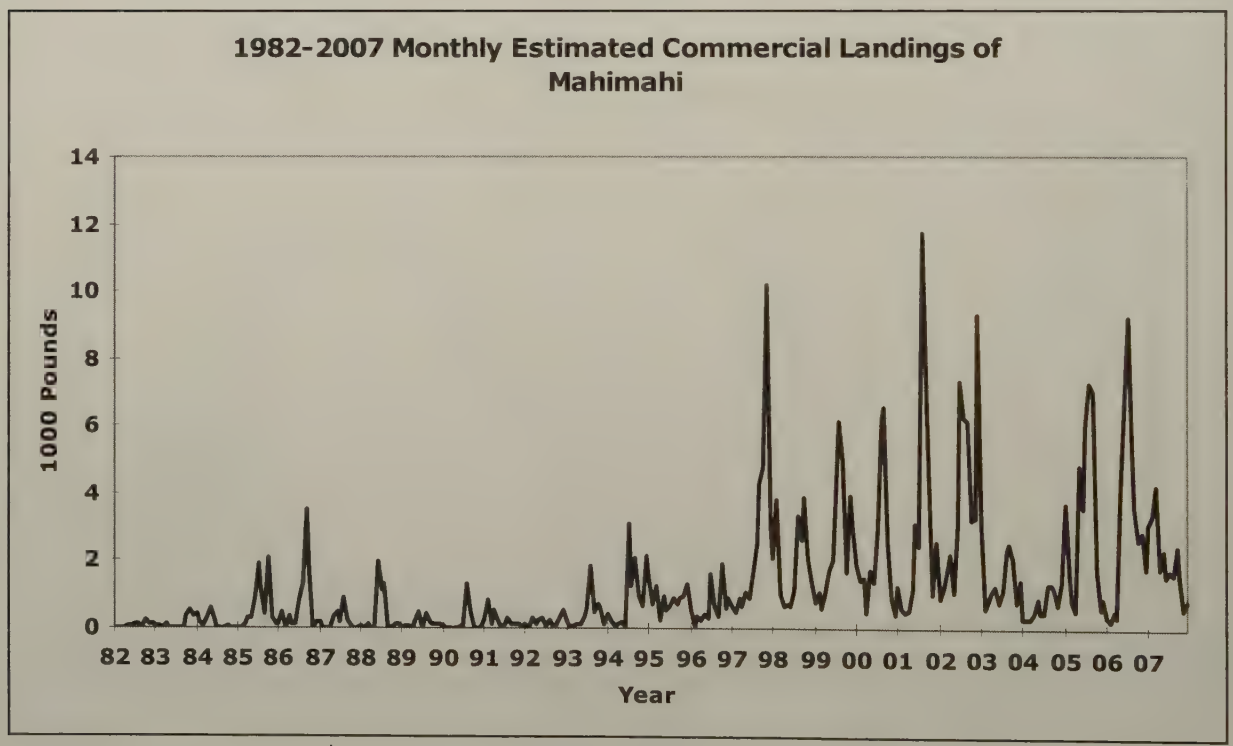

Figure A-4-6

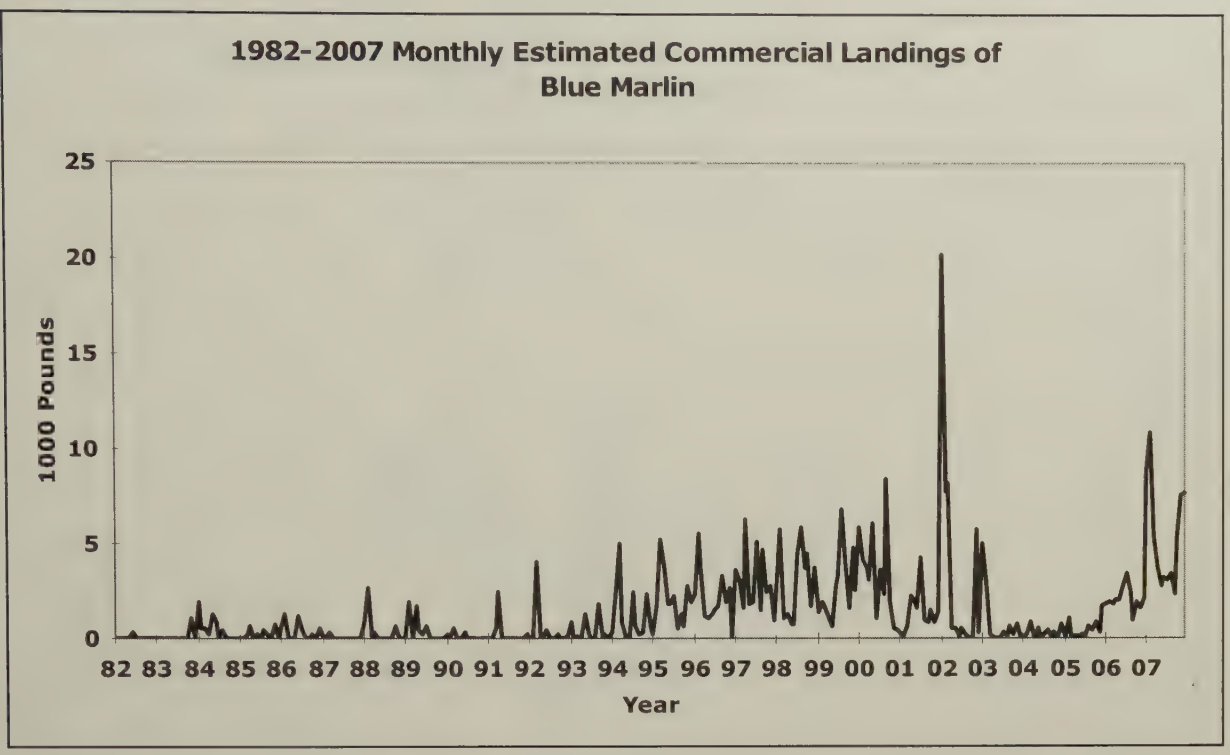

Figure A-4-7

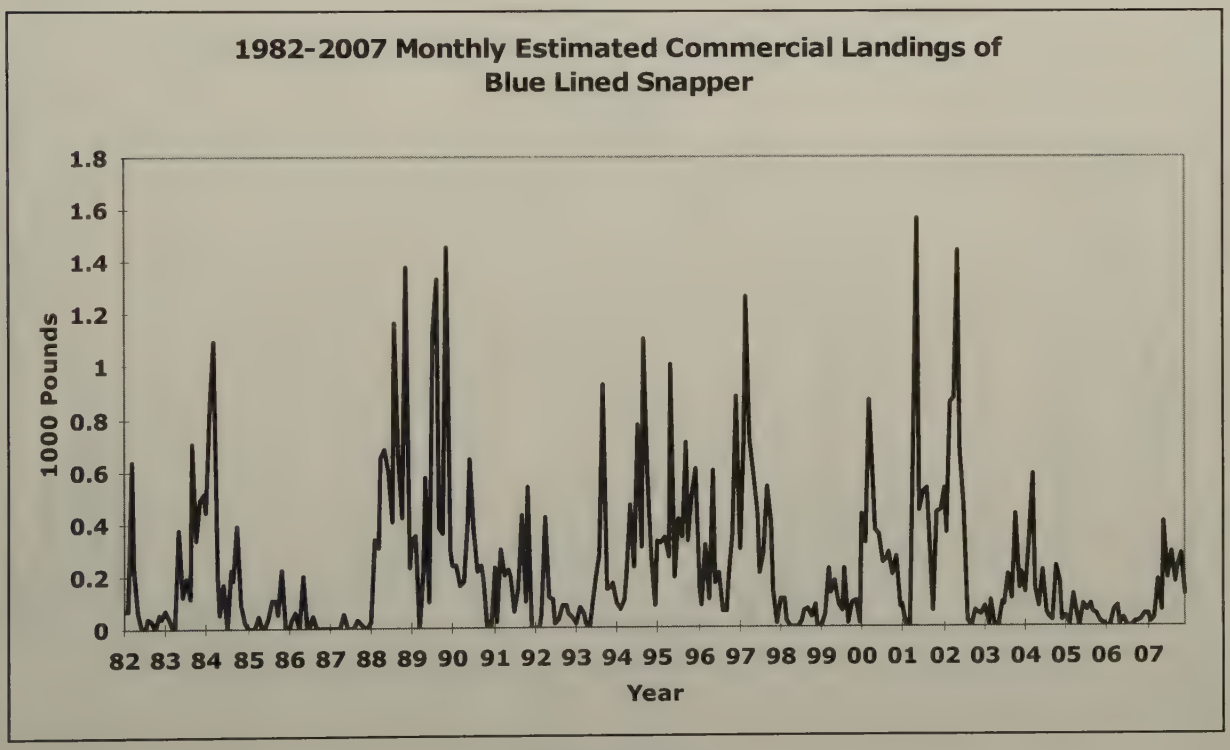

Figure A-4-8

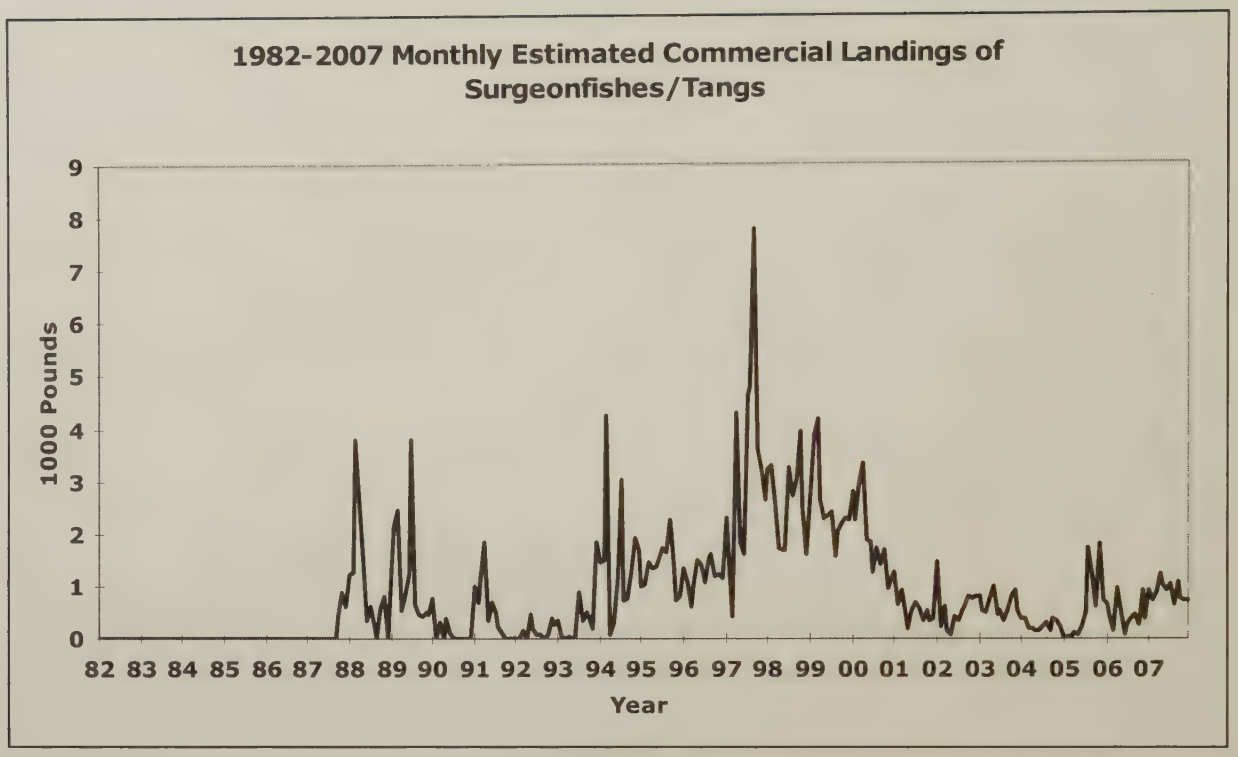

Figure A-4-9

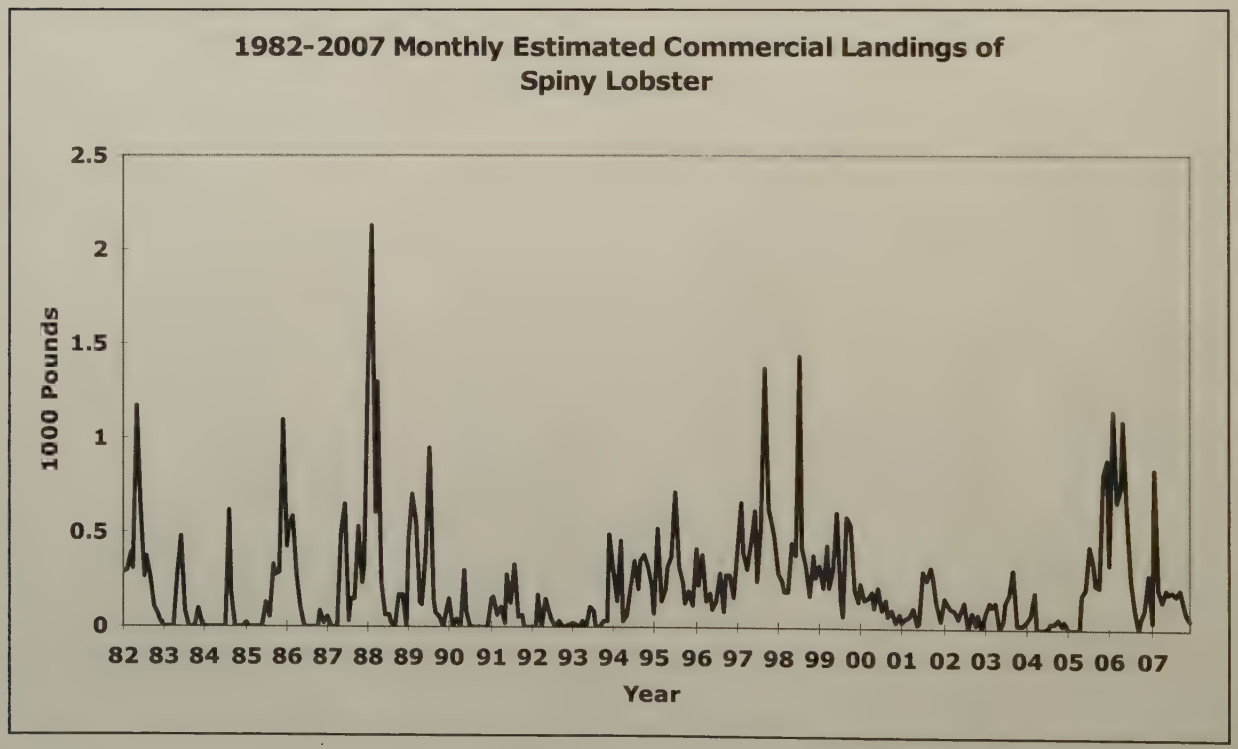

Figure A-4-10

NORTHERN MARIANA ISLANDS
2007 FISHERY STATISTICS

Compiled by

Division of Fish and Wildlife

and the

Western Pacific Fisheries Information Network

June 2009

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COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS
2007 FISHERY STATISTICS

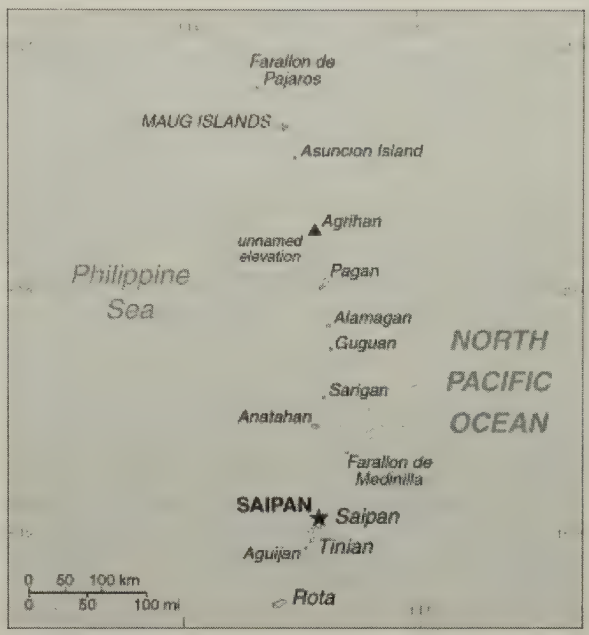
INTRODUCTION

Location: 14° to 21°N latitude, 145°E longitude

Main Islands: Saipan, Rota, Tinian

Population: about 87,000 (*The World Factbook*, 2008)

Economy: tourism, agriculture, garment production



CNMI
Source: https://www.cia.gov/library/publications/the-world-factbook/maps/cq-map.gif; *The World Factbook*

The chief domestic commercial fishery of the Commonwealth of the Northern Mariana Islands (CNMI) is a small boat, 1-day troll fishery, and most of the boats are 12- to 24-foot outboard-powered, runabout-type vessels. However, a few larger boats are used mainly for bottomfishing around the islands north of Saipan, and a small charter fleet also exists.

Trolling is the most common fishing method, but bottomfishing and reef fishing are also popular. Reef fishes make up a significant portion of the total commercial catch and are an important component of the local diet. In recent years, several larger boats started fishing more intensively for bottomfishes around the islands north of Saipan. While the vast majority of the domestic catch is consumed locally, there have been some intermittent exports to Guam, Hawaii, and Japan.

In 1982, WPacFIN significantly improved data collecting and processing systems by providing computer hardware, software, and training. Since then numerous system upgrades and replacements have been implemented to keep up with changing technologies and the increasing demands for improved fisheries statistics.

DATA COLLECTING

The Division of Fish and Wildlife (DFW) has been collecting fishery statistics about the commercial fishing fleet of Saipan since the mid-1970s. With the assistance of the NMFS WPacFIN program, DFW also expanded its fisheries monitoring programs to include Rota and Tinian, the other two major inhabited islands in the CNMI.

DFW's principal method of collecting domestic commercial fisheries data is a dealer invoicing system, sometimes referred to as a trip ticket system. The DFW provides numbered two-part invoices to all purchasers of fresh fishery products (including hotels, restaurants, stores, fish markets, and roadside vendors). Dealers then complete an invoice each time they purchase fish directly from fishers; one copy goes to DFW and one copy goes to their records.

Some advantages of this data collection method are that it is relatively inexpensive to implement and maintain and is fairly easy to completely cover the commercial fisheries. DFW can also provide feedback to dealers and fishers to ensure data accuracy and continued cooperation.

There are some disadvantages: (1) dependency on non-DFW personnel to identify the catch and record the data; (2) restrictions on the types of data that can be collected; (3) required education and cooperation of all fish purchasers; and (4) limited recordings of fish actually sold to dealers. Therefore, a potentially important portion of the total landings is unrecorded.

Since 1982, DFW has tried to minimize these disadvantages in several ways: (1) maintain a close working relationship with dealers; (2) add new dealers to their list and educate them; and (3) implement a creel survey to help estimate total catch, including recreational and subsistence catch.

The current system collects data from dealers in Saipan, where DFW estimates more than 90% of all CNMI commercial landings occur. The DFW also estimates that the proportion of total commercial landings that have been recorded in the Saipan database since 1983 is about 90%. Previous volumes of FSWP reported only recorded landings, but in recent volumes the data have been adjusted to represent 100% coverage and are referenced as "Estimated Commercial Landings" in the tables and charts.

Information collected from the fishers includes the following:

- Date
- Buyer's Name (dealer)
- Seller's Name (fisherman)
- Species
- Weight (pounds)
- Price per Pound
- Value
- Invoice Number

These data elements are collected for all purchases of fishery products; however, species identification is frequently made only to a group level, especially for reef fish.

DATA PROCESSING

At the beginning of each month, a DFW employee visits each of the dealers in Saipan to collect the previous month's invoices, to resolve problems, and to answer any questions the dealers may have. The invoices are then returned to the office for an initial visual edit during the coding process and entered into the Commercial Purchase System database. After the records are entered, reports are generated to help verify that all the data were entered correctly. On a quarterly basis, copies of the database are sent to the Pacific Islands Fisheries Science Center, where the data are transferred to the central computer for additional verification before generating summary reports. These reports and databases are then ready for use by qualified WPacFIN participants.

DATA REPORTING

After all editing, adjustment, and quality control activities have been completed, monthly and annual summary reports by species are generated. Each monthly report contains a subtotal for the sum of all species for that month. Annual reports contain the total landings for each species and the total recorded landings for all species for the calendar year.

Please note that commercial landings data have been adjusted to reflect total coverage and are referenced as "Estimated Commercial Landings" in the charts and tables. Also, some of the charts in this volume are new or modified from earlier volumes. To access the most up-to-date data and charts, please visit http://www.pifsc.noaa.gov/wpacfin.

SPECIES CATEGORIES

The species and species groups that are used in the tables and graphs of CNMI's data are defined in this section. Many of the species included in this report have been recategorized over the years. For example, the Magnuson Fishery Conservation and Management Act of 1976 was amended in 1992 to include tunas in the Pelagic Management Unit Species (PMUS) category. However, this report maintains the original species categorizations from previous FSWP reports for comparative purposes. As such, tunas are kept in a separate category.

I. Pelagic Management Unit Species (PMUS)

- Blue marlin
- Mahimahi
- Sailfish
- Sharks
- Spearfish
- Wahoo

II. Bottomfish Management Unit Species (BMUS)

- Alfonsin
- Amberjack
- Black jack
- Blacktip grouper
- Blue lined snapper
- Ehu (red snapper)
- Giant trevally
- Gindai (flower snapper)
- Jobfish (uku)
- Kalikali (yellowtail)
- Lyretail grouper
- Onaga (red snapper)
- Opakapaka (pink snapper)
- Redgill emperor
- Silvermouth (deep lehi)
- Yelloweye opakapaka

III. Billfishes

- Blue marlin
- Sailfish
- Spearfish

IV. Tunas

- Dogtooth tuna
- Kawakawa (saba)
- Skipjack tuna
- Tunas (unknown)
- Yellowfin tuna

V. Other Tunas

- Dogtooth tuna
- Kawakawa (saba)
- Tunas (unknown)

VI. Fisheries Categories

A. *Pelagic Fishes*

- Barracudas
- Blue marlin
- Dogtooth tuna
- Kawakawa (saba)
- Mahimahi
- Pelagic fishes (unknown)
- Rainbow runner
- Sailfish
- Sharks
- Skipjack tuna
- Spearfish
- Tunas (unknown)
- Wahoo
- Yellowfin tuna

B. *Bottomfishes*

Alfonsin
Amberjack
Bigeye emperor
Bigeye trevally
Black jack
Blackspot emperor
Blacktip grouper
Blue lined gindai
Blue lined snapper
Bluefin trevally
Bottomfishes (unknown)
Brassy trevally
Ehu (red snapper)
Eight banded grouper
Emperors
Flagtail grouper
Flametail emperor
Giant coral trout
Giant trevally
Gindai (flower snapper)
Groupers
Highfin grouper
Honeycomb grouper
Humpback snapper
Jacks
Jobfish (uku)
Kalikali (yellowtail)
Longnose emperor
Lyretail grouper
Marbled grouper
Onaga (red snapper)
Onespot snapper
Opakapaka (pink snapper)
Orange spotted trevally
Orangefin emperor
Peacock grouper
Pink grouper
Red snapper
Redgill emperor
Saddleback grouper
Sickle pomfret
Silvermouth (deep lehi)
Smalltooth jobfish
Stout emperor
Tomato grouper
White lyretail grouper
Yellow banded grouper
Yellow spotted trevally
Yelloweye opakapaka
Yellowlips emperor
Yellowstripe emperor

C. *Reef Fishes*

- Bigeye/glasseye
- Bluebanded surgeonfish
- Bluespine unicornfish
- Butterflyfish
- Convict tang
- Dash & dot goatfish
- Fusiliers
- Goatfishes
- Highfin rudderfish brown
- Highfin rudderfish silver
- Humphead wrasse
- Orangespine unicornfish
- Parrotfishes
- Rabbitfishes
- Reef fishes (unknown)
- Shallow snappers
- Soldierfishes
- Squirrelfishes
- Surgeonfishes
- Sweetlips
- Triggerfishes
- Tripletail wrasse
- Two-barred goatfish
- Unicornfishes
- Wrasses
- Yellowfin surgeonfish
- Yellowstripe goatfish

D. *Other Fishes*

- Bigeye scad
- Clams/bivalves
- Coconut crab
- Crabs
- Eels (freshwater)
- Invertebrates
- Kona crab
- Lemu
- Milkfish
- Miscellaneous
- Mullet
- Octopus
- Sea cucumbers
- Seaweeds
- Shrimp (freshwater)
- Shrimp (saltwater)
- Slipper lobster
- Spiny lobster
- Squid
- Trochus
- Turtle

Table B-1
CNMI Annual 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad	26,490	65,190	2.46
Jacks	2,503	6,349	2.54
Mullet	31	78	2.50
Black jack	307	754	2.45
Giant trevally	148	371	2.50
Bottomfishes (unknown)	6,823	17,311	2.54
Sickle pomfret	3,996	10,735	2.69
Ehu (red snapper)	2,396	8,295	3.46
Gindai (flower snapper)	3,453	12,264	3.55
Groupers	2,012	6,017	2.99
Kalikali (yellowtail)	1,949	4,647	2.38
Onaga (red snapper)	1,902	7,886	4.15
Opakapaka (pink snapper)	2,479	6,707	2.71
Jobfish (uku)	3,762	6,645	1.77
Silvermouth (deep lehi)	753	1,984	2.63
Amberjack	357	1,003	2.81
Blue lined snapper	2,651	6,701	2.53
Red snapper	47	117	2.50
Reef fishes (unknown)	58,813	155,828	2.65
Wrasses	1,562	4,403	2.82
Rabbitfishes	6,603	21,082	3.19
Emperors	10,825	27,112	2.50
Squirrelfishes	144	356	2.47
Parrotfishes	26,919	84,973	3.16
Surgeonfishes	2,102	4,308	2.05
Orangespine unicornfish	462	1,163	2.52
Unicornfishes	399	1,010	2.53
Goatfishes	244	568	2.33
Bigeye emperor	399	1,175	2.94
Barracudas	33	59	1.78
Mahimahi	28,611	48,811	1.71
Blue marlin	83	174	2.11
Sailfish	83	167	2.00
Rainbow runner	1,559	2,984	1.91
Wahoo	2,712	5,262	1.94
Skipjack tuna	258,886	331,058	1.28
Dogtooth tuna	2,942	4,805	1.63
Yellowfin tuna	37,802	69,441	1.84
Kawakawa (saba)	1,893	3,121	1.65
Spiny lobster	3,259	17,296	5.31
Slipper lobster	8	42	5.00
Octopus	2,276	4,652	2.04
TOTAL	510,680	952,903	1.87

Table B-2
CNMI January 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad	402	1,181	2.94
Jacks	276	852	3.09
Bottomfishes (unknown)	341	852	2.50
Gindai (flower snapper)	13	44	3.50
Groupers	183	756	4.14
Kalikali (yellowtail)	153	422	2.75
Onaga (red snapper)	28	156	5.50
Jobfish (uku)	1	3	4.00
Blue lined snapper	45	124	2.75
Reef fishes (unknown)	6,028	15,180	2.52
Wrasses	5	11	2.50
Rabbitfishes	1,148	3,733	3.25
Emperors	418	1,098	2.63
Parrotfishes	599	1,881	3.14
Surgeonfishes	147	319	2.16
Mahimahi	6,175	11,590	1.88
Blue marlin	30	75	2.50
Rainbow runner	88	177	2.00
Wahoo	81	162	2.00
Skipjack tuna	13,443	24,220	1.80
Dogtooth tuna	32	63	2.00
Yellowfin tuna	5,015	9,555	1.91
Kawakawa (saba)	106	159	1.50
Spiny lobster	36	178	5.00
Octopus	379	793	2.09
TOTAL	35,170	73,581	2.09

Table B-3
CNMI February 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad	1,090	3,271	3.00
Jacks	243	604	2.49
Bottomfishes (unknown)	183	458	2.50
Sickle pomfret	161	471	2.93
Ehu (red snapper)	24	81	3.36
Gindai (flower snapper)	160	548	3.43
Kalikali (yellowtail)	42	127	3.00
Onaga (red snapper)	113	548	4.84
Opakapaka (pink snapper)	278	767	2.75
Jobfish (uku)	5	15	3.00
Silvermouth (deep lehi)	43	126	2.96
Reef fishes (unknown)	7,176	17,994	2.51
Wrasses	20	50	2.50
Rabbitfishes	1,235	3,986	3.23
Emperors	982	2,455	2.50
Parrotfishes	1,175	3,652	3.11
Surgeonfishes	231	464	2.01
Orangespine unicornfish	17	42	2.50
Unicornfishes	137	341	2.50
Goatfishes	5	13	2.67
Barracudas	25	47	1.87
Mahimahi	6,331	11,397	1.80
Blue marlin	28	57	2.00
Rainbow runner	93	188	2.03
Wahoo	85	180	2.12
Skipjack tuna	14,183	23,045	1.62
Dogtooth tuna	265	494	1.86
Yellowfin tuna	5,073	9,387	1.85
Kawakawa (saba)	181	285	1.58
Spiny lobster	57	280	4.91
Octopus	283	565	2.00
TOTAL	39,923	81,938	2.05

Table B-4
CNMI March 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad	760	2,281	3.00
Jacks	83	206	2.50
Bottomfishes (unknown)	271	677	2.50
Sickle pomfret	116	332	2.87
Ehu (red snapper)	64	238	3.71
Gindai (flower snapper)	143	531	3.70
Kalikali (yellowtail)	79	198	2.50
Onaga (red snapper)	53	210	4.00
Opakapaka (pink snapper)	156	449	2.87
Jobfish (uku)	3	9	2.75
Silvermouth (deep lehi)	227	577	2.55
Amberjack	115	345	3.00
Red snapper	47	117	2.50
Reef fishes (unknown)	6,352	15,991	2.52
Wrasses	62	179	2.91
Rabbitfishes	695	2,250	3.24
Emperors	462	1,154	2.50
Parrotfishes	854	2,703	3.17
Surgeonfishes	113	227	2.00
Mahimahi	7,516	11,666	1.55
Wahoo	471	912	1.94
Skipjack tuna	19,746	26,278	1.33
Dogtooth tuna	145	266	1.83
Yellowfin tuna	3,700	6,702	1.81
Spiny lobster	17	84	5.00
Octopus	199	398	2.00
TOTAL	42,447	74,981	1.77

Table B-5
CNMI April 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad	508	1,512	2.98
Jacks	78	170	2.17
Bottomfishes (unknown)	261	660	2.53
Sickle pomfret	105	306	2.91
Ehu (red snapper)	198	664	3.36
Gindai (flower snapper)	291	1,032	3.55
Groupers	228	753	3.30
Kalikali (yellowtail)	133	345	2.59
Onaga (red snapper)	90	330	3.67
Opakapaka (pink snapper)	318	875	2.75
Jobfish (uku)	83	208	2.50
Blue lined snapper	134	335	2.50
Reef fishes (unknown)	3,915	9,945	2.54
Rabbitfishes	202	647	3.21
Emperors	599	1,514	2.53
Parrotfishes	1,144	3,607	3.15
Surgeonfishes	134	268	2.00
Bigeye emperor	20	60	3.00
Mahimahi	4,353	6,699	1.54
Rainbow runner	86	153	1.78
Wahoo	503	945	1.88
Skipjack tuna	25,411	31,798	1.25
Dogtooth tuna	532	770	1.45
Yellowfin tuna	3,613	6,035	1.67
Kawakawa (saba)	87	152	1.75
Spiny lobster	237	1,206	5.09
Octopus	57	119	2.10
TOTAL	43,320	71,110	1.64

Table B-6
CNMI May 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad	759	2,295	3.03
Jacks	288	668	2.32
Black jack	60	147	2.45
Bottomfishes (unknown)	1,815	4,705	2.59
Sickle pomfret	669	1,784	2.67
Ehu (red snapper)	460	1,686	3.67
Gindai (flower snapper)	697	2,495	3.58
Groupers	134	352	2.62
Kalikali (yellowtail)	230	593	2.57
Onaga (red snapper)	445	1,761	3.96
Opakapaka (pink snapper)	197	525	2.67
Jobfish (uku)	862	1,745	2.03
Silvermouth (deep lehi)	55	158	2.87
Amberjack	18	44	2.50
Blue lined snapper	219	569	2.60
Reef fishes (unknown)	4,187	10,911	2.61
Wrasses	43	128	3.00
Rabbitfishes	111	303	2.74
Emperors	1,049	2,623	2.50
Parrotfishes	1,214	3,768	3.10
Surgeonfishes	32	63	2.00
Orangespine unicornfish	63	158	2.50
Unicornfishes	68	169	2.50
Goatfishes	13	20	1.50
Mahimahi	1,102	1,720	1.56
Rainbow runner	112	194	1.74
Wahoo	179	337	1.89
Skipjack tuna	31,497	35,613	1.13
Dogtooth tuna	342	507	1.48
Yellowfin tuna	4,462	7,211	1.62
Kawakawa (saba)	31	50	1.62
Spiny lobster	92	468	5.11
Octopus	234	468	2.00
TOTAL	51,738	84,238	1.63

Table B-7
CNMI June 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad	117	346	2.97
Jacks	302	733	2.43
Black jack	149	371	2.50
Giant trevally	13	33	2.50
Bottomfishes (unknown)	848	2,090	2.46
Sickle pomfret	929	2,450	2.64
Ehu (red snapper)	283	998	3.53
Gindai (flower snapper)	530	1,905	3.60
Groupers	882	2,647	3.00
Onaga (red snapper)	459	1,911	4.16
Opakapaka (pink snapper)	310	827	2.67
Jobfish (uku)	1,250	1,929	1.54
Silvermouth (deep lehi)	81	283	3.50
Amberjack	8	21	2.50
Blue lined snapper	603	1,511	2.51
Reef fishes (unknown)	3,618	9,254	2.56
Wrasses	67	133	2.00
Rabbitfishes	200	642	3.22
Emperors	1,412	3,530	2.50
Squirrelfishes	75	188	2.50
Parrotfishes	2,730	8,492	3.11
Surgeonfishes	10	20	2.00
Orangespine unicornfish	184	460	2.50
Mahimahi	18	37	2.00
Rainbow runner	235	444	1.89
Wahoo	55	110	2.00
Skipjack tuna	30,515	33,743	1.11
Dogtooth tuna	483	748	1.55
Yellowfin tuna	3,673	6,958	1.89
Spiny lobster	498	2,580	5.19
Octopus	75	154	2.04
TOTAL	50,611	85,546	1.69

Table B-8
CNMI July 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad	1,187	3,560	3.00
Jacks	310	776	2.50
Mullet	23	58	2.50
Black jack	41	92	2.22
Giant trevally	48	121	2.50
Bottomfishes (unknown)	468	1,202	2.57
Sickle pomfret	278	813	2.92
Ehu (red snapper)	452	1,577	3.49
Gindai (flower snapper)	547	1,905	3.48
Groupers	80	200	2.50
Kalikali (yellowtail)	628	1,211	1.93
Onaga (red snapper)	328	1,350	4.12
Opakapaka (pink snapper)	263	694	2.63
Jobfish (uku)	332	671	2.02
Silvermouth (deep lehi)	95	313	3.29
Amberjack	17	50	3.00
Blue lined snapper	550	1,376	2.50
Reef fishes (unknown)	3,905	10,035	2.57
Wrasses	75	190	2.54
Rabbitfishes	337	1,059	3.15
Emperors	2,639	6,453	2.44
Squirrelfishes	23	58	2.50
Parrotfishes	3,271	10,117	3.09
Surgeonfishes	170	342	2.01
Orangespine unicornfish	87	218	2.50
Unicornfishes	158	395	2.50
Goatfishes	49	122	2.50
Bigeye emperor	333	1,000	3.00
Barracudas	8	13	1.50
Blue marlin	24	42	1.75
Rainbow runner	73	136	1.88
Skipjack tuna	21,223	26,593	1.25
Dogtooth tuna	22	33	1.50
Yellowfin tuna	594	1,167	1.96
Kawakawa (saba)	250	371	1.49
Spiny lobster	744	3,954	5.31
Octopus	60	131	2.20
TOTAL	39,691	78,398	1.98

Table B-9
CNMI August 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad	3,133	8,950	2.86
Jacks	230	575	2.50
Mullet	8	20	2.50
Black jack	26	65	2.50
Bottomfishes (unknown)	199	537	2.70
Sickle pomfret	199	394	1.98
Ehu (red snapper)	303	936	3.09
Gindai (flower snapper)	240	815	3.39
Groupers	257	528	2.06
Kalikali (yellowtail)	138	368	2.67
Onaga (red snapper)	57	185	3.27
Opakapaka (pink snapper)	348	962	2.77
Jobfish (uku)	422	679	1.61
Silvermouth (deep lehi)	168	312	1.85
Amberjack	104	294	2.82
Blue lined snapper	356	890	2.50
Reef fishes (unknown)	3,060	7,851	2.57
Wrasses	68	171	2.50
Rabbitfishes	518	1,679	3.24
Emperors	624	1,560	2.50
Squirrelfishes	38	94	2.50
Parrotfishes	2,225	7,034	3.16
Surgeonfishes	263	567	2.16
Orangespine unicornfish	42	115	2.75
Goatfishes	62	154	2.50
Bigeye emperor	46	115	2.50
Mahimahi	80	160	2.00
Rainbow runner	226	410	1.81
Wahoo	74	137	1.85
Skipjack tuna	32,641	34,852	1.07
Dogtooth tuna	332	562	1.69
Yellowfin tuna	1,493	2,929	1.96
Spiny lobster	364	1,909	5.25
Octopus	87	217	2.50
TOTAL	48,428	77,022	1.59

Table B-10
CNMI September 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad	8,737	20,344	2.33
Jacks	132	330	2.50
Black jack	32	79	2.50
Giant trevally	87	217	2.50
Bottomfishes (unknown)	246	619	2.52
Sickle pomfret	927	2,687	2.90
Ehu (red snapper)	121	398	3.30
Gindai (flower snapper)	165	609	3.69
Groupers	68	188	2.75
Kalikali (yellowtail)	141	365	2.59
Opakapaka (pink snapper)	25	65	2.61
Jobfish (uku)	238	381	1.60
Silvermouth (deep lehi)	17	42	2.50
Blue lined snapper	466	1,171	2.51
Reef fishes (unknown)	4,320	12,471	2.89
Wrasses	251	724	2.89
Rabbitfishes	204	653	3.20
Emperors	466	1,166	2.50
Parrotfishes	3,245	10,428	3.21
Surgeonfishes	253	512	2.02
Mahimahi	337	606	1.80
Rainbow runner	150	278	1.86
Wahoo	328	605	1.85
Skipjack tuna	22,284	25,799	1.16
Dogtooth tuna	110	208	1.89
Yellowfin tuna	1,165	2,099	1.80
Kawakawa (saba)	3	3	1.00
Spiny lobster	409	2,241	5.48
Octopus	275	550	2.00
TOTAL	45,201	85,838	1.90

Table B-11
CNMI October 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad	4,340	9,729	2.24
Jacks	128	347	2.70
Bottomfishes (unknown)	437	1,104	2.53
Sickle pomfret	58	138	2.36
Ehu (red snapper)	293	992	3.38
Gindai (flower snapper)	273	1,002	3.66
Kalikali (yellowtail)	50	127	2.54
Onaga (red snapper)	74	297	4.00
Opakapaka (pink snapper)	153	410	2.68
Jobfish (uku)	247	441	1.79
Amberjack	72	179	2.50
Blue lined snapper	211	559	2.65
Reef fishes (unknown)	4,091	10,496	2.57
Wrasses	406	1,210	2.98
Rabbitfishes	670	2,154	3.22
Emperors	780	1,859	2.38
Squirrelfishes	8	17	2.00
Parrotfishes	3,158	10,057	3.18
Surgeonfishes	416	849	2.04
Goatfishes	78	177	2.28
Mahimahi	1,099	1,876	1.71
Sailfish	10	20	2.00
Rainbow runner	144	289	2.01
Wahoo	341	679	1.99
Skipjack tuna	21,461	25,213	1.17
Dogtooth tuna	123	183	1.48
Yellowfin tuna	1,570	3,036	1.93
Kawakawa (saba)	44	44	1.00
Spiny lobster	595	3,240	5.45
Octopus	276	551	2.00
TOTAL	41,606	77,275	1.86

Table B-12
CNMI November 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad	4,507	9,460	2.10
Jacks	194	485	2.50
Bottomfishes (unknown)	633	1,583	2.50
Sickle pomfret	533	1,323	2.48
Ehu (red snapper)	100	360	3.60
Gindai (flower snapper)	128	473	3.71
Kalikali (yellowtail)	102	259	2.55
Onaga (red snapper)	27	100	3.75
Opakapaka (pink snapper)	220	550	2.50
Jobfish (uku)	150	225	1.50
Blue lined snapper	67	167	2.50
Reef fishes (unknown)	5,387	16,170	3.00
Wrasses	263	768	2.92
Rabbitfishes	639	1,957	3.06
Emperors	837	2,217	2.65
Parrotfishes	3,661	11,673	3.19
Surgeonfishes	138	286	2.08
Orangespine unicornfish	65	163	2.50
Unicornfishes	17	50	3.00
Goatfishes	25	50	2.00
Mahimahi	1,181	2,231	1.89
Sailfish	73	147	2.00
Rainbow runner	142	283	2.00
Wahoo	512	1,022	2.00
Skipjack tuna	10,824	17,711	1.64
Dogtooth tuna	128	193	1.50
Yellowfin tuna	2,802	5,438	1.94
Kawakawa (saba)	796	1,209	1.52
Spiny lobster	158	863	5.45
Octopus	162	323	2.00
TOTAL	34,467	77,737	2.26

Table B-13
CNMI December 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad	952	2,260	2.38
Jacks	239	604	2.52
Bottomfishes (unknown)	1,121	2,823	2.52
Sickle pomfret	22	38	1.75
Ehu (red snapper)	99	364	3.67
Gindai (flower snapper)	267	907	3.40
Groupers	180	594	3.30
Kalikali (yellowtail)	253	633	2.50
Onaga (red snapper)	228	1,038	4.54
Opakapaka (pink snapper)	209	582	2.78
Jobfish (uku)	169	338	2.00
Silvermouth (deep lehi)	68	174	2.55
Amberjack	23	70	3.00
Reef fishes (unknown)	6,774	19,530	2.88
Wrasses	304	839	2.76
Rabbitfishes	646	2,018	3.13
Emperors	557	1,483	2.66
Parrotfishes	3,643	11,561	3.17
Surgeonfishes	196	392	2.00
Orangespine unicornfish	4	8	2.00
Unicornfishes	20	55	2.75
Goatfishes	13	31	2.50
Mahimahi	418	829	1.99
Rainbow runner	210	432	2.06
Wahoo	85	173	2.04
Skipjack tuna	15,657	26,194	1.67
Dogtooth tuna	429	780	1.82
Yellowfin tuna	4,644	8,925	1.92
Kawakawa (saba)	397	848	2.14
Spiny lobster	53	292	5.47
Slipper lobster	8	42	5.00
Octopus	192	383	2.00
TOTAL	38,080	85,241	2.24

The following are summary charts of the major species and species groups by month:

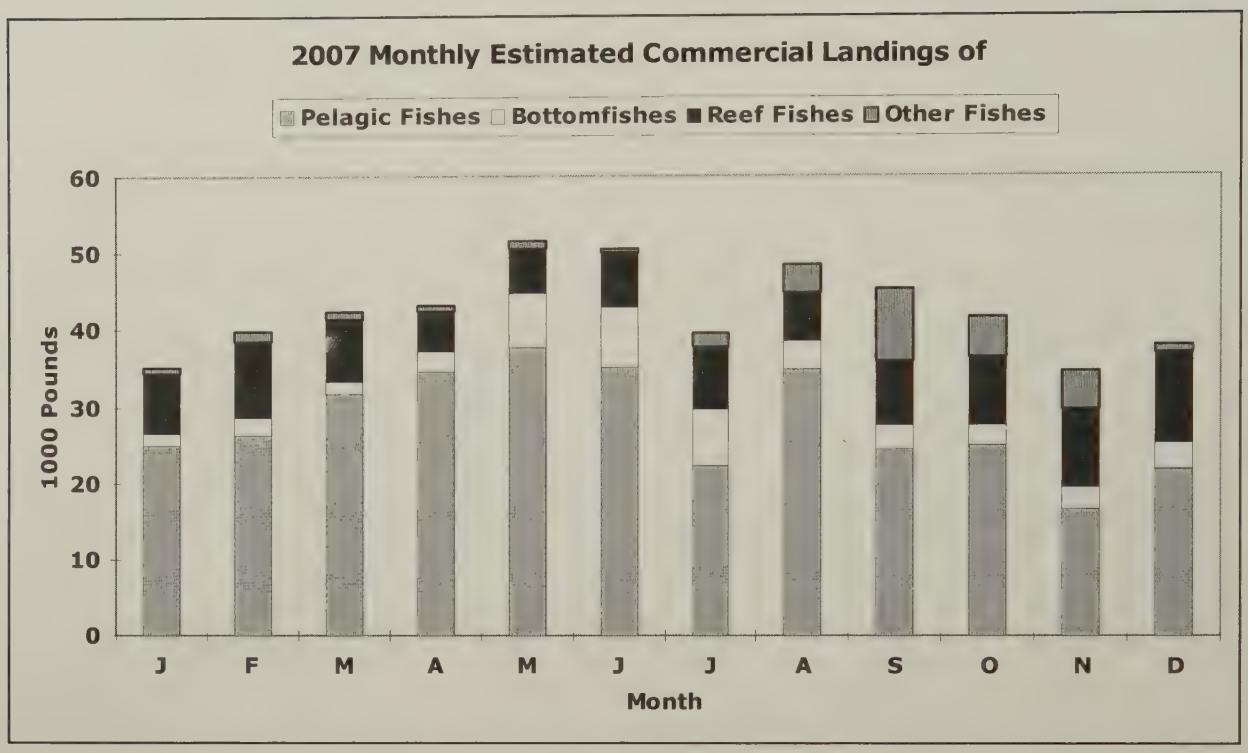


Figure B-1-1

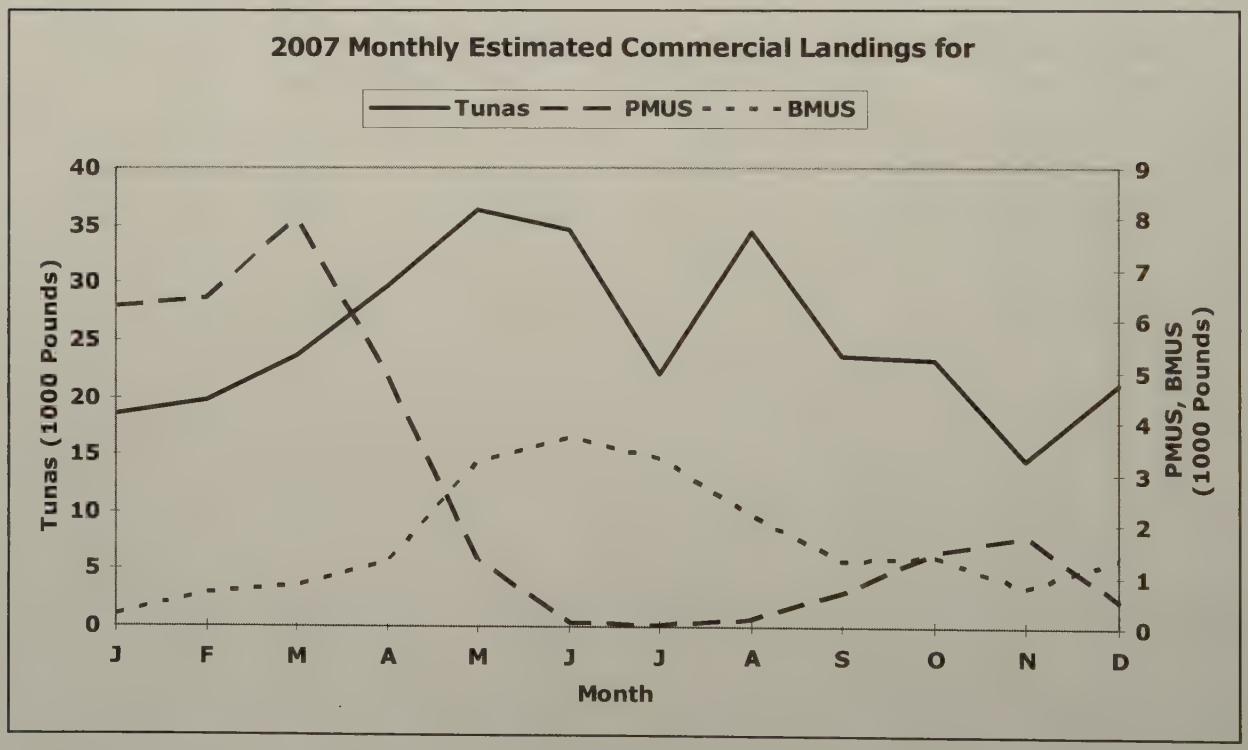


Figure B-1-2

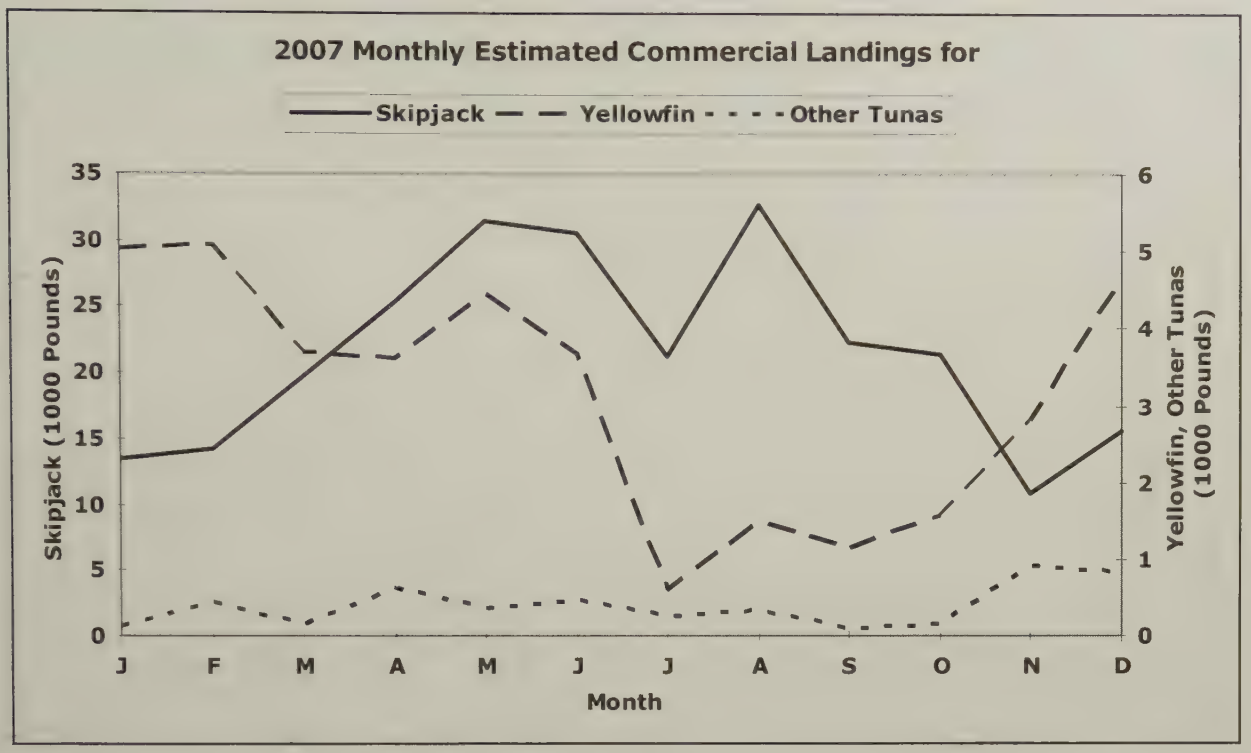

2007 Monthly Estimated Commercial Landings for
Skipjack
Yellowfin
Other Tunas
Skipjack (1000 Pounds)
Yellowfin, Other Tunas (1000 Pounds)
Month
J F M A M J J A S O N D
0 5 10 15 20 25 30 35
0 1 2 3 4 5 6

Figure B-1-3

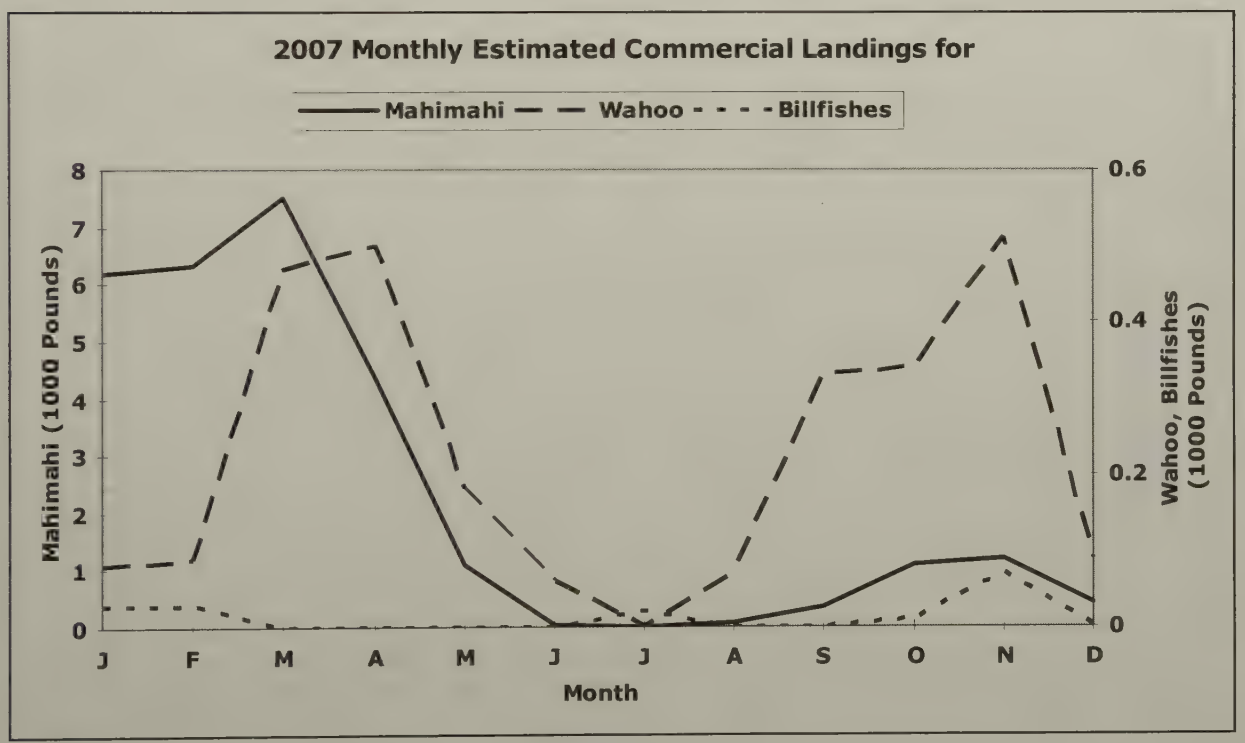

2007 Monthly Estimated Commercial Landings for
Mahimahi
Wahoo
Billfishes
Mahimahi (1000 Pounds)
Wahoo, Billfishes (1000 Pounds)
Month
J F M A M J J A S O N D
0 1 2 3 4 5 6 7 8
0 0.2 0.4 0.6

Figure B-1-4

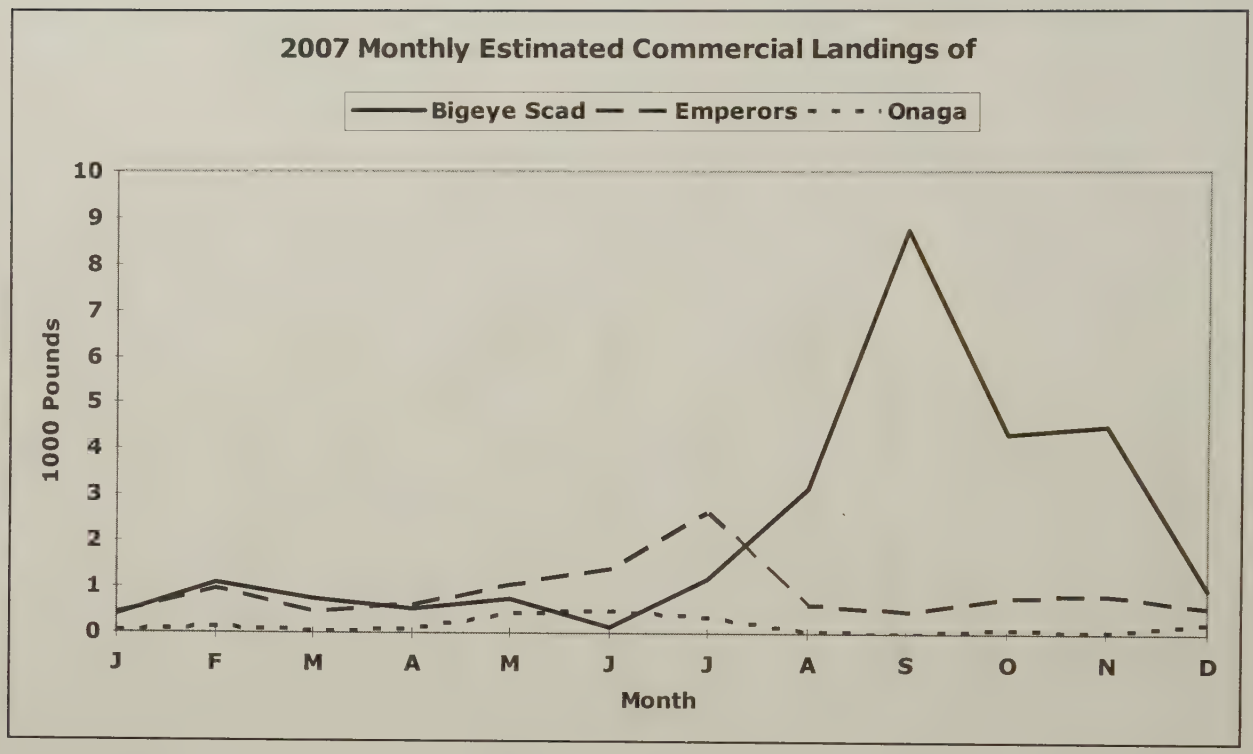

2007 Monthly Estimated Commercial Landings of
Bigeye Scad
Emperors
Onaga
1000 Pounds
10
9
8
7
6
5
4
3
2
1
0
J
F
M
A
M
J
J
A
S
O
N
D
Month

Figure B-1-5

The following are seasonality plots for the major species or species groups, showing the average weight landed during each month for all years combined:

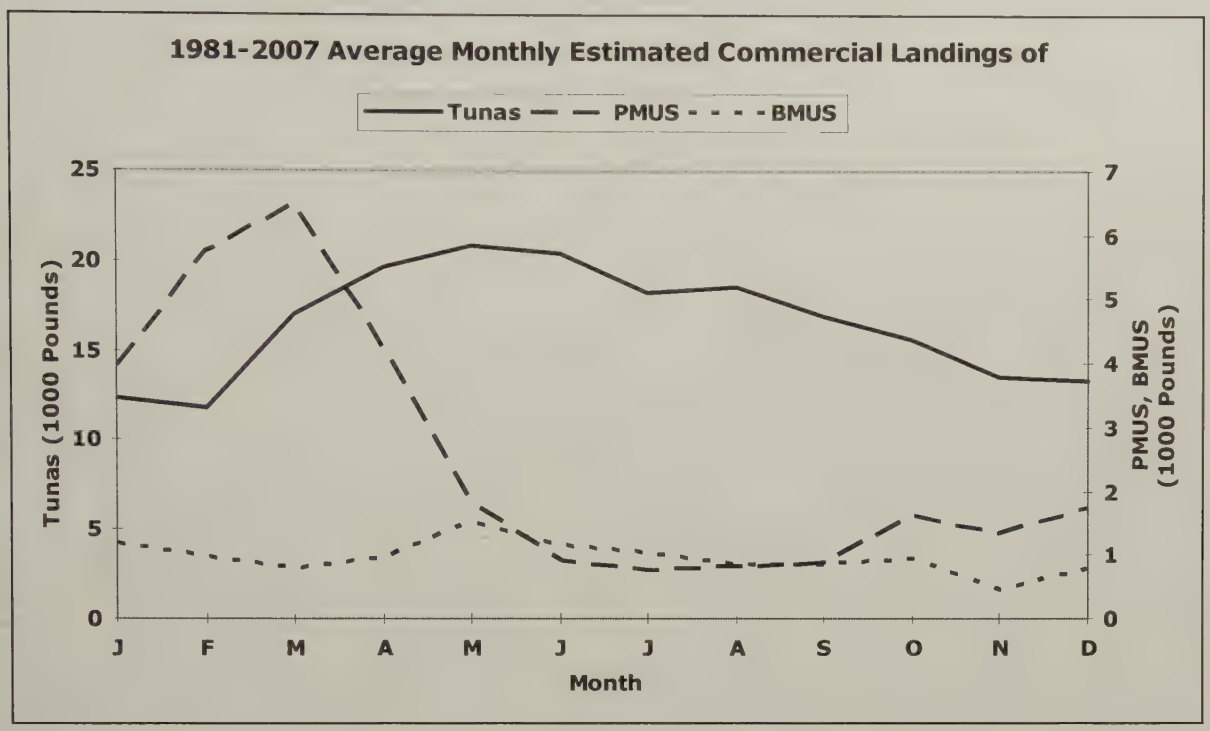


Figure B-2-1

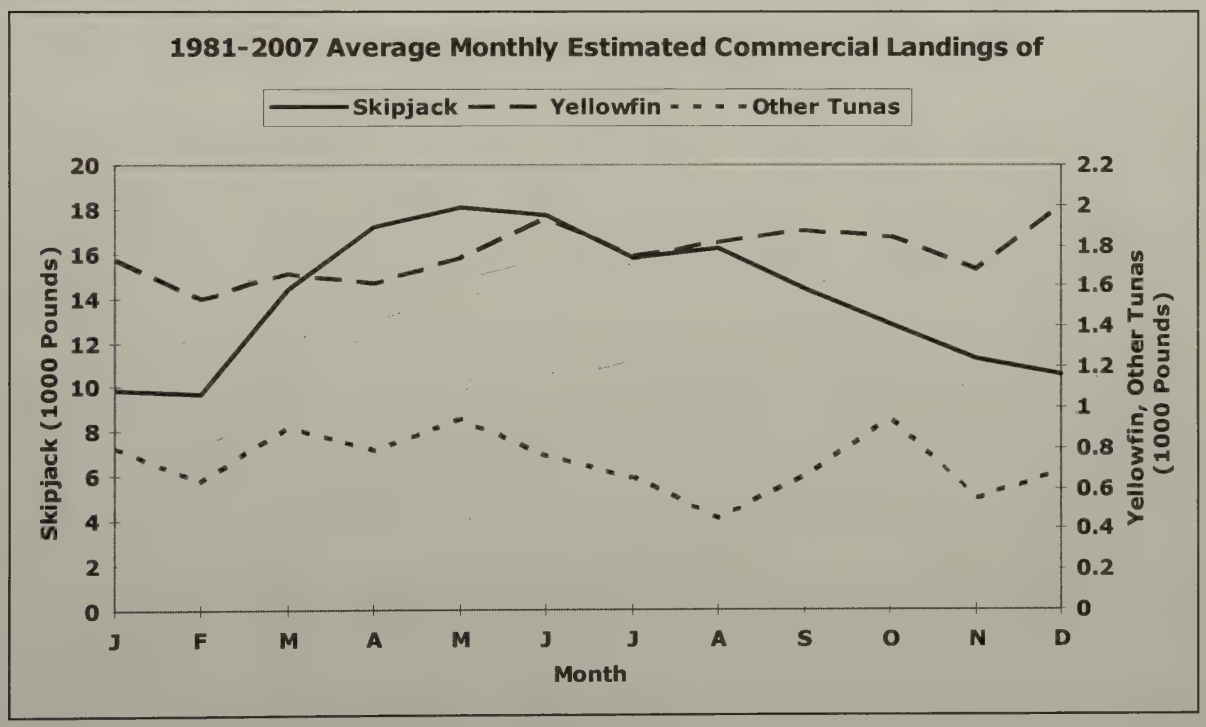


Figure B-2-2

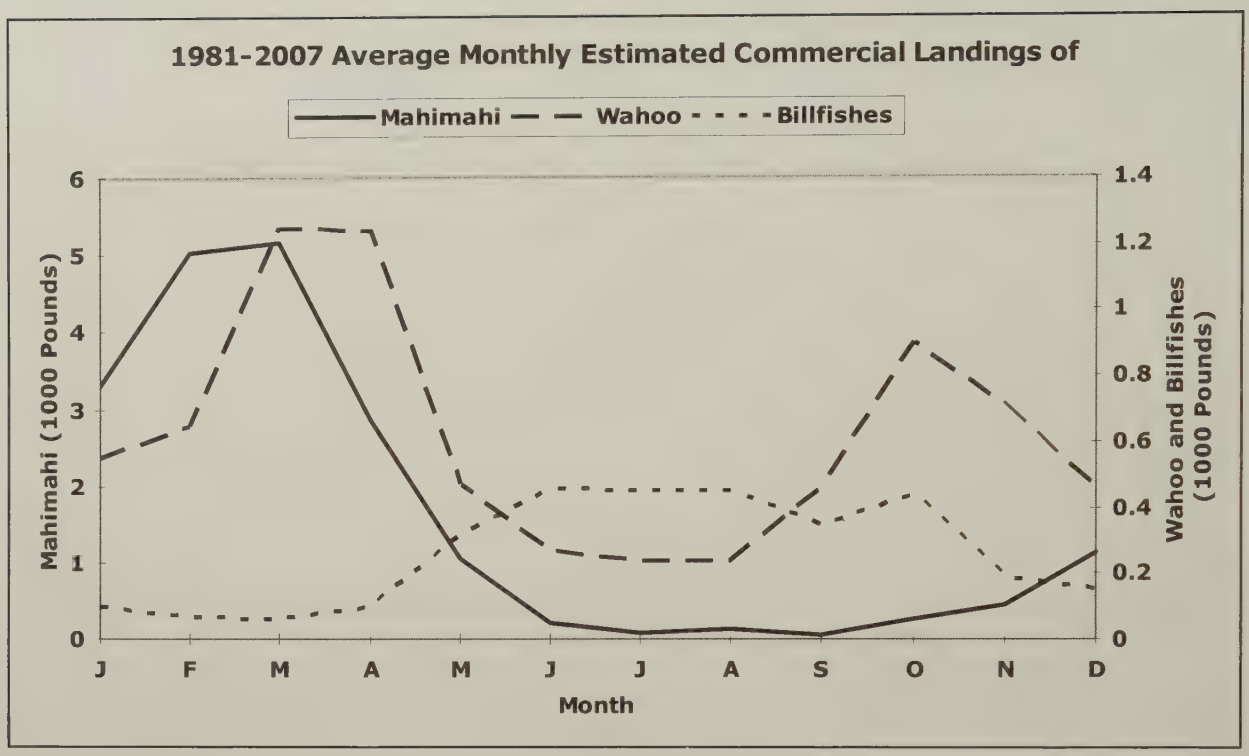


Figure B-2-3

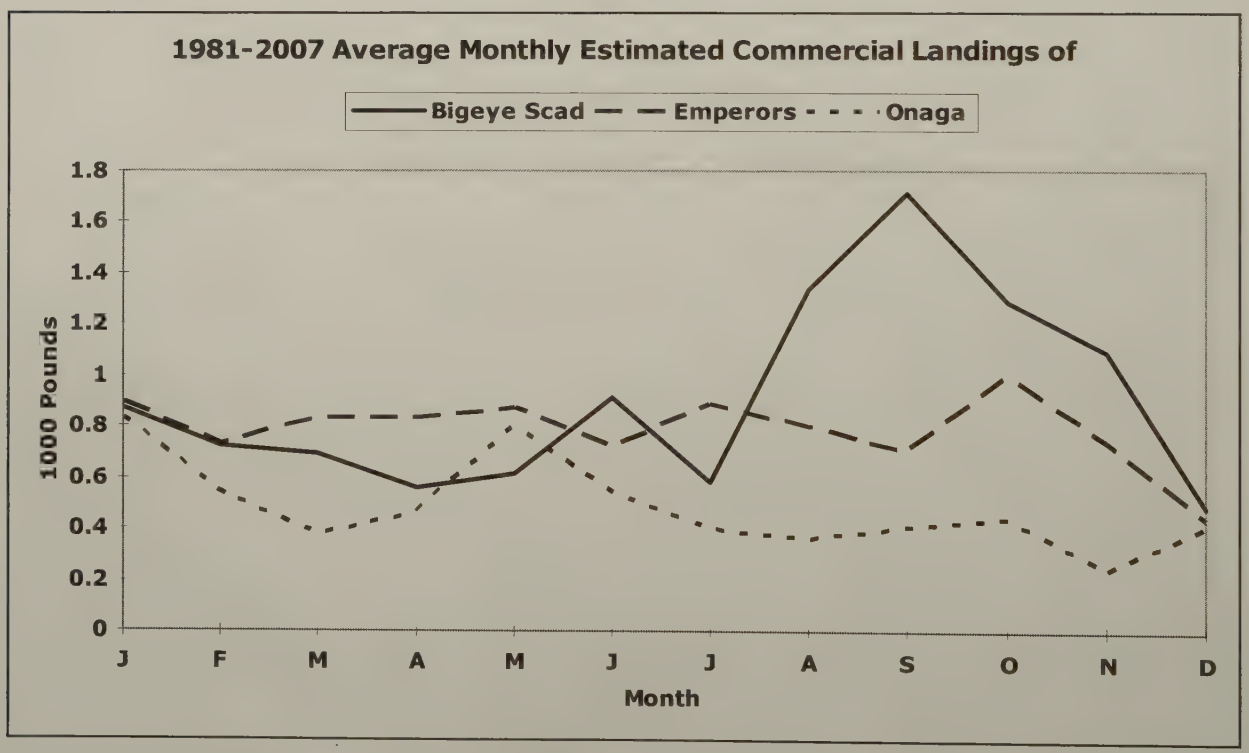


Figure B-2-4

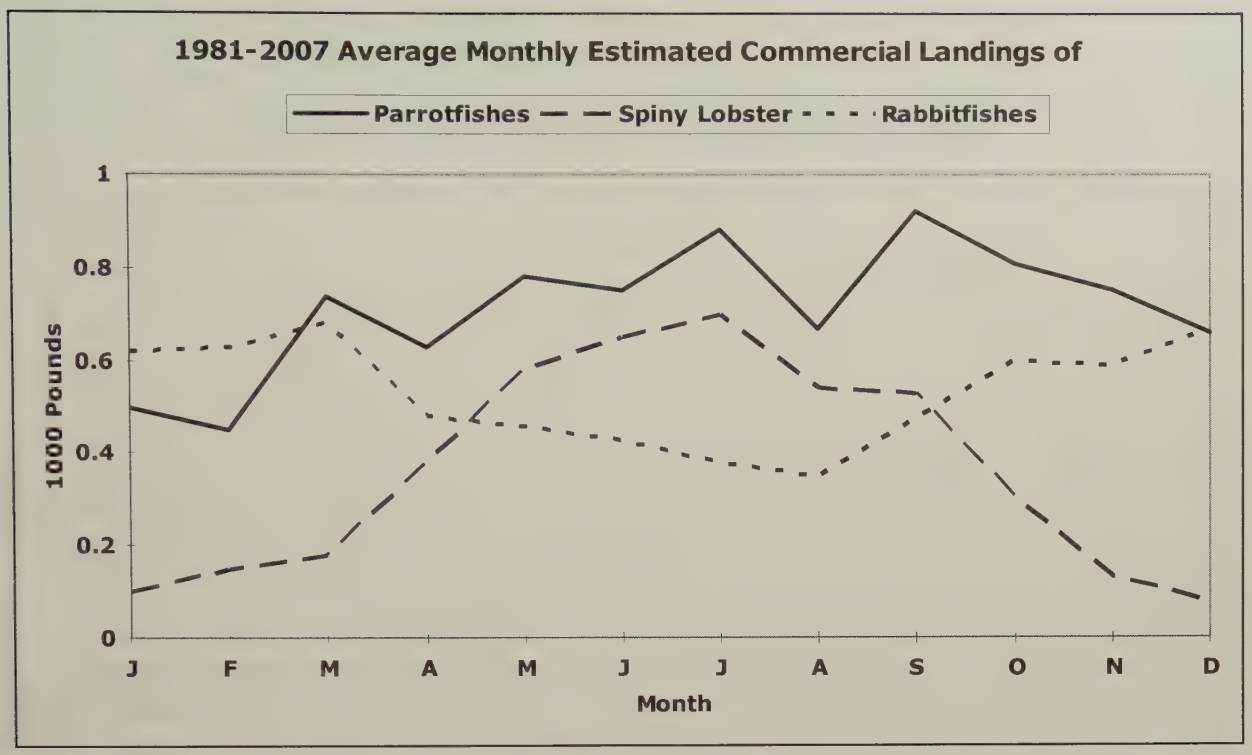

1981-2007 Average Monthly Estimated Commercial Landings of
Parrotfishes
Spiny Lobster
Rabbitfishes
1000 Pounds
1
0.8
0.6
0.4
0.2
0
J
F
M
A
M
J
J
A
S
O
N
D
Month

Figure B-2-5

The following graphs plot annual summary statistics to illustrate the variability among years:

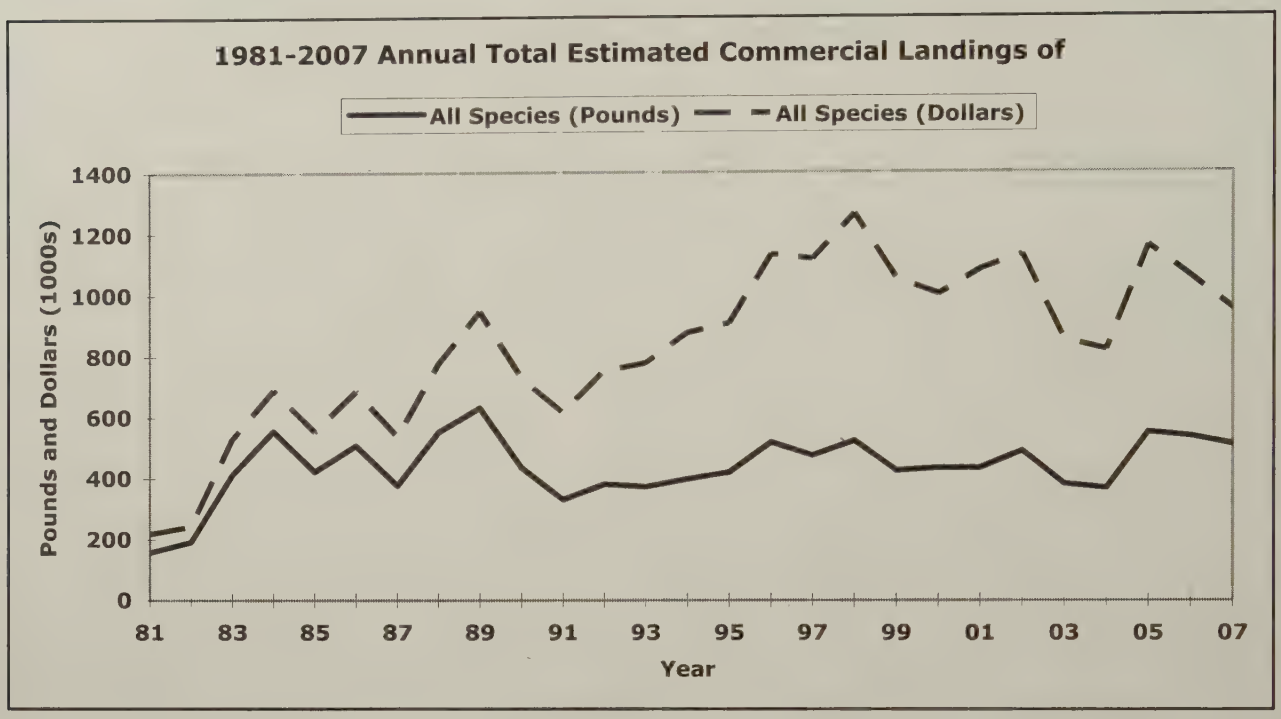


Figure B-3-1

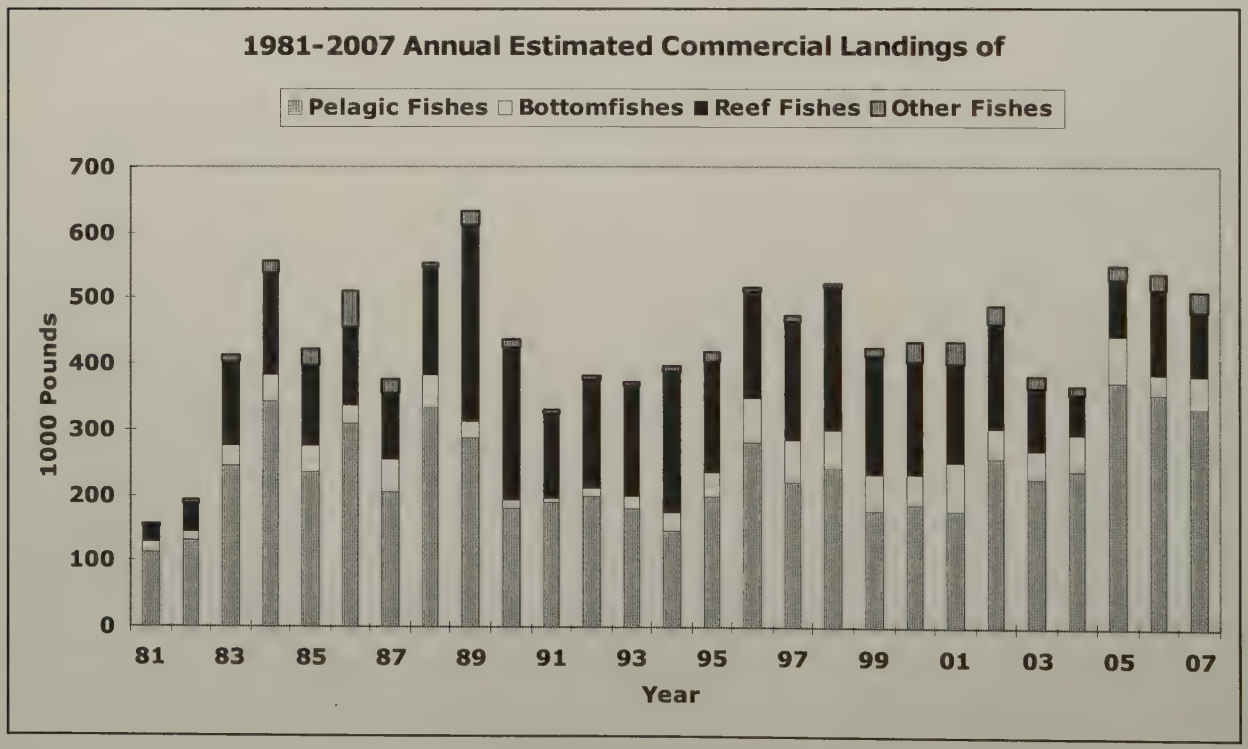


Figure B-3-2

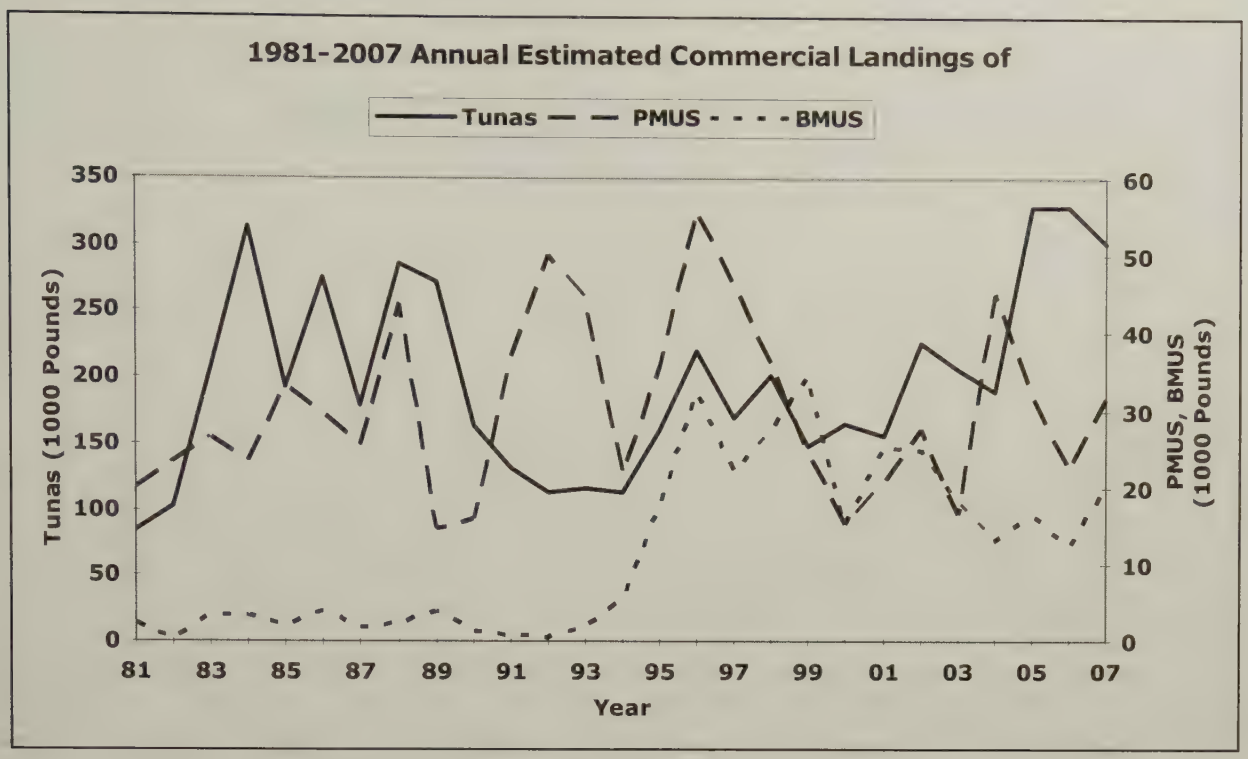


Figure B-3-3

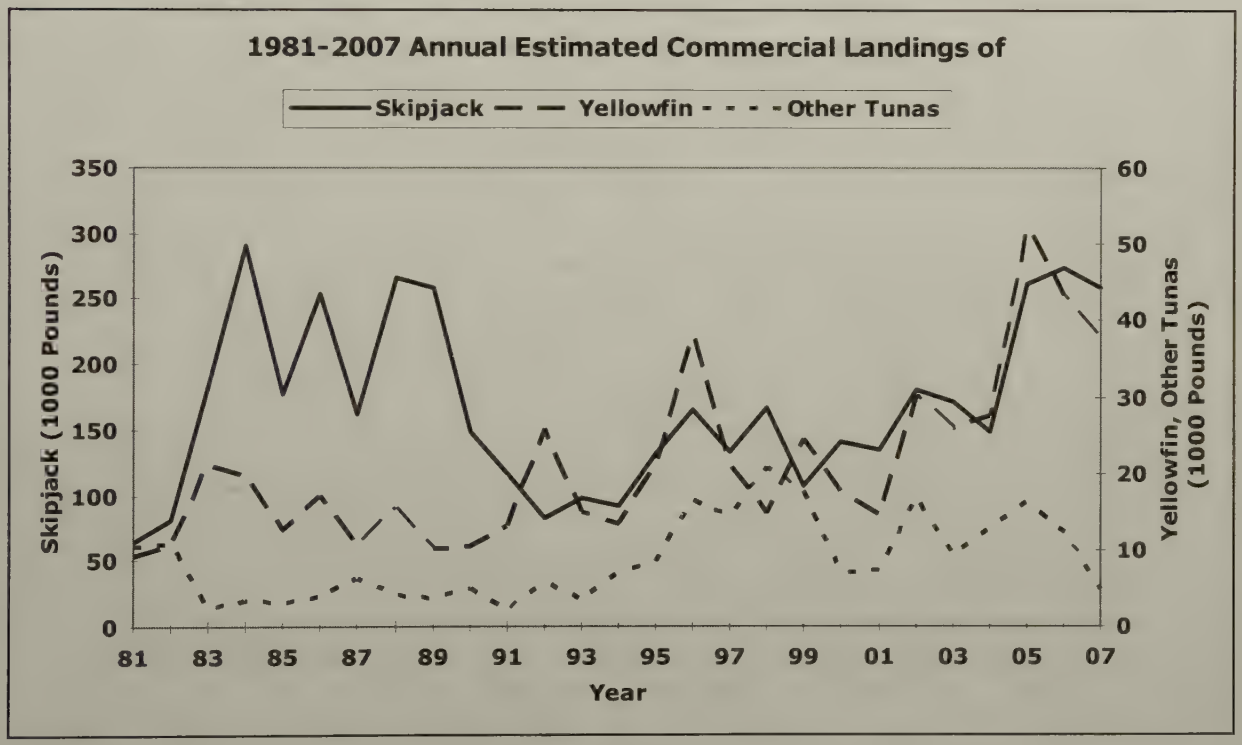


Figure B-3-4

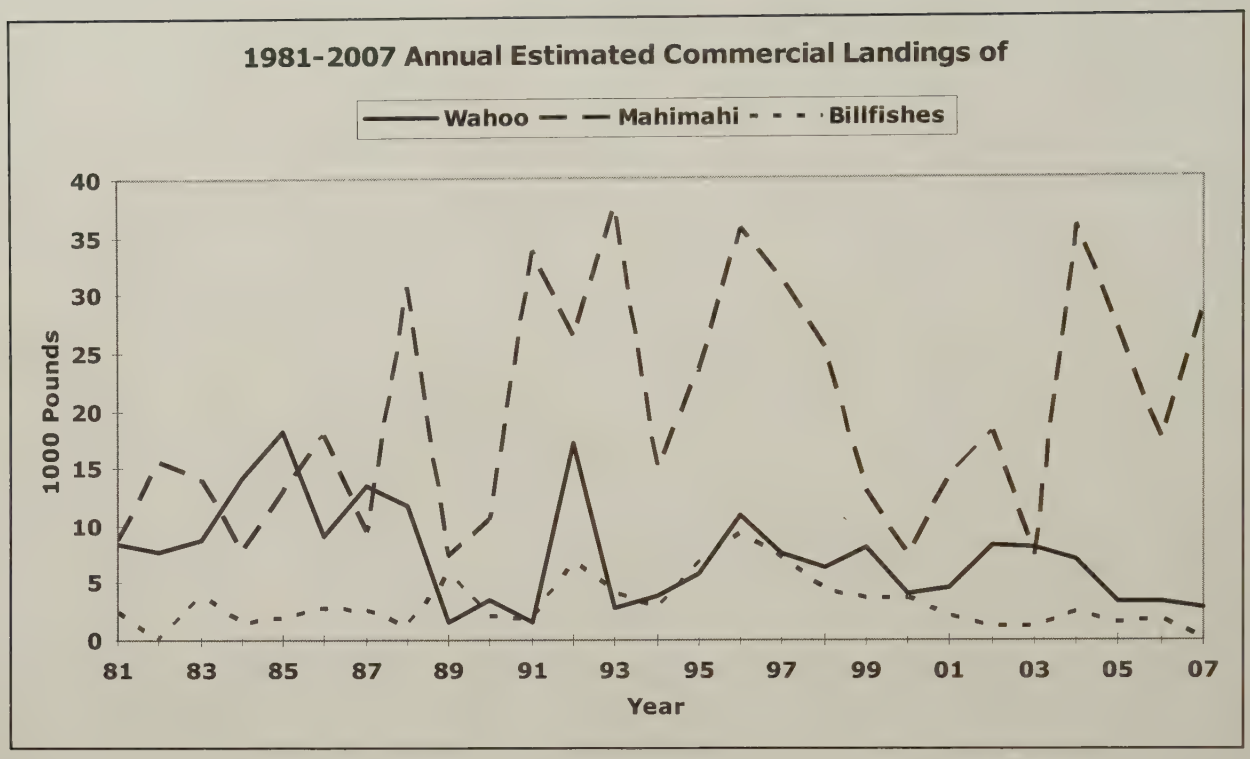
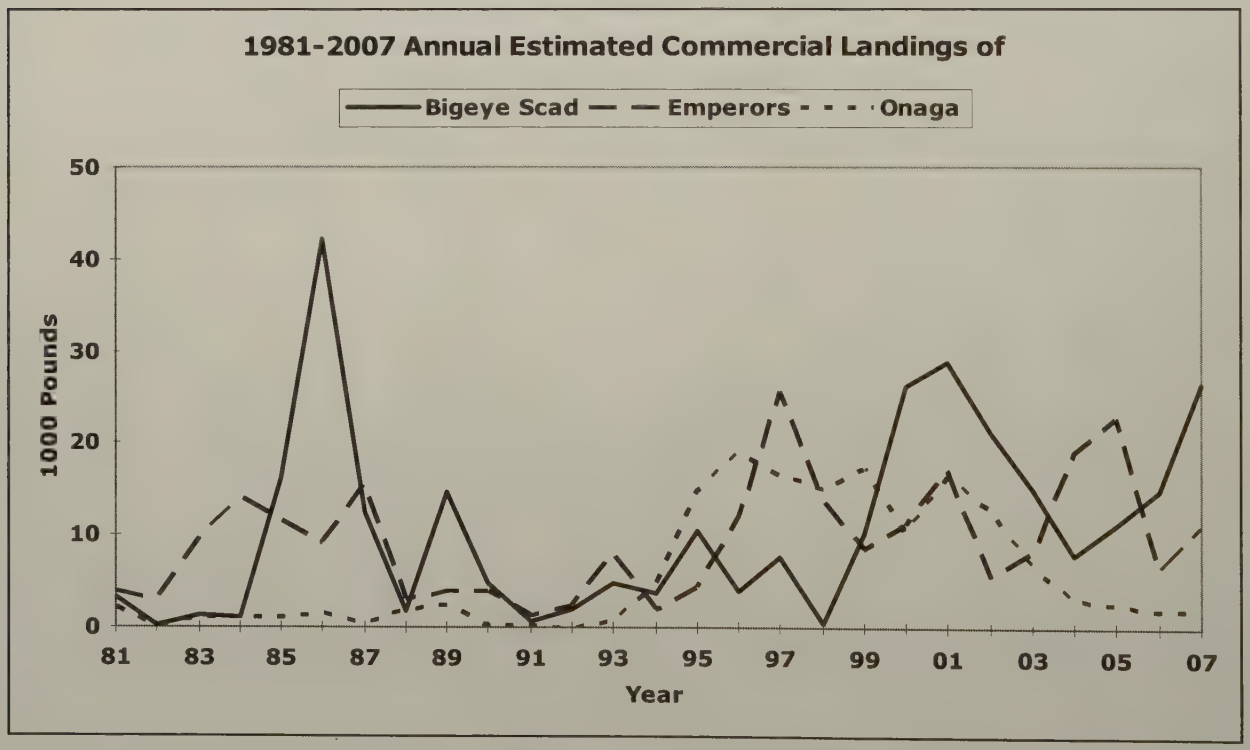


Figure B-3-5



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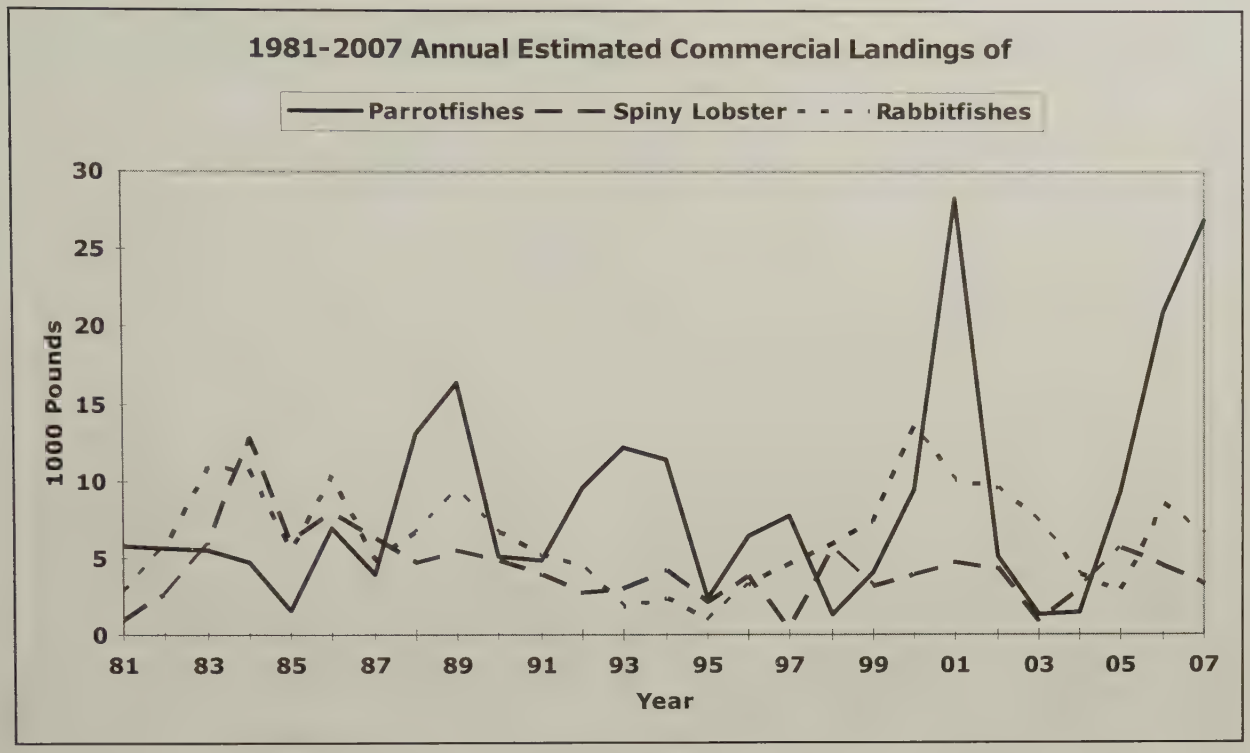
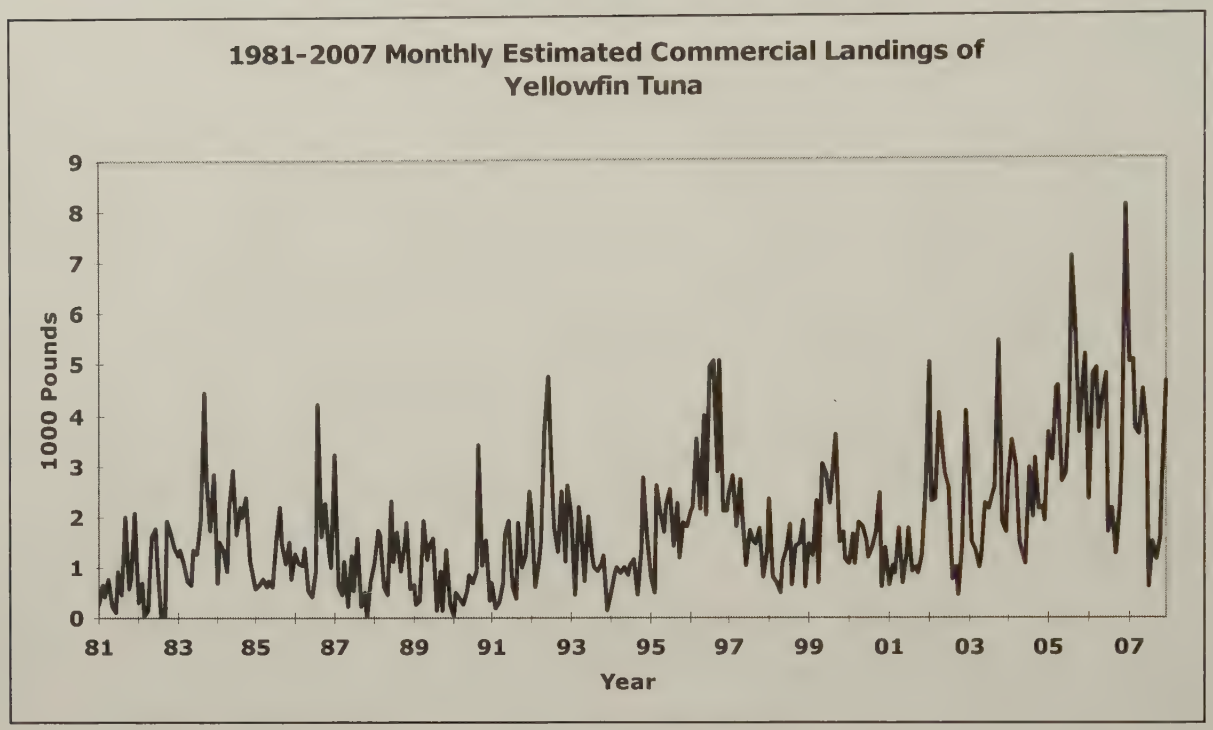

1981-2007 Annual Estimated Commercial Landings of
Parrotfishes
Spiny Lobster
Rabbitfishes
1000 Pounds
30
25
20
15
10
5
0
81
83
85
87
89
91
93
95
97
99
01
03
05
07
Year

Figure B-3-7

The following graphs plot the monthly landings of some of the major commercially important species and document monthly fluctuations in landings of these species over the time series:



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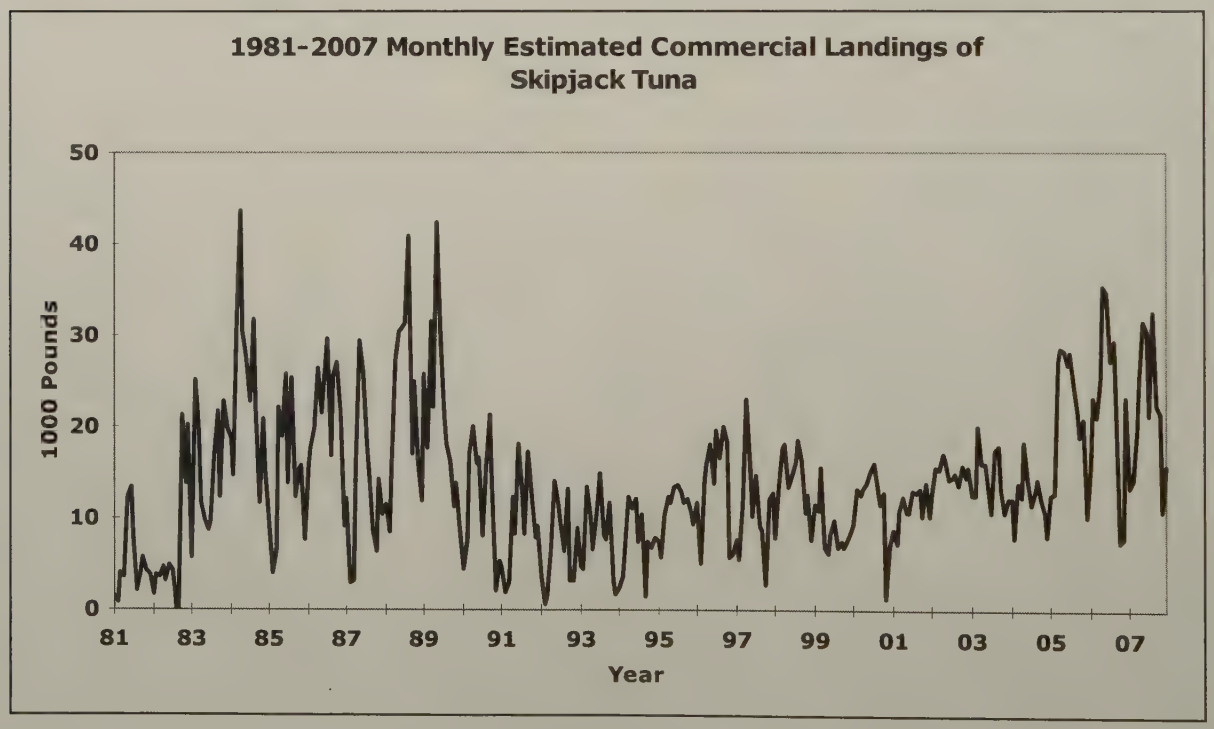

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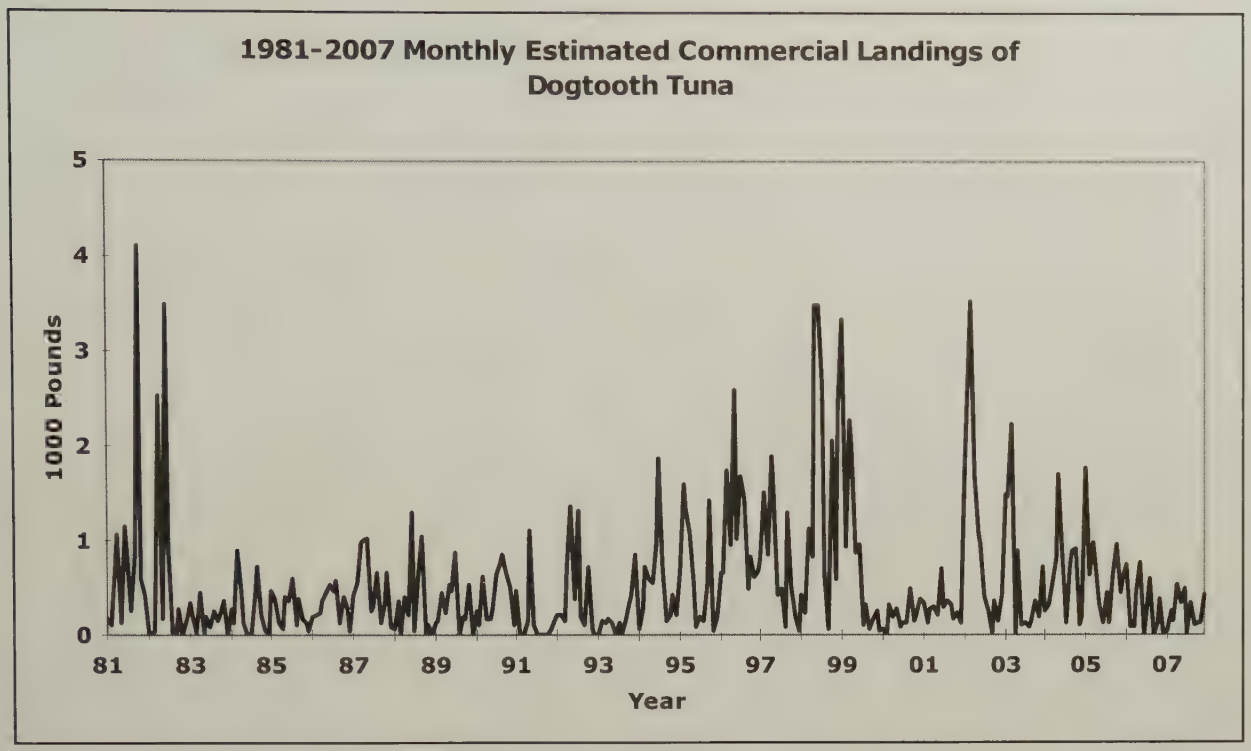

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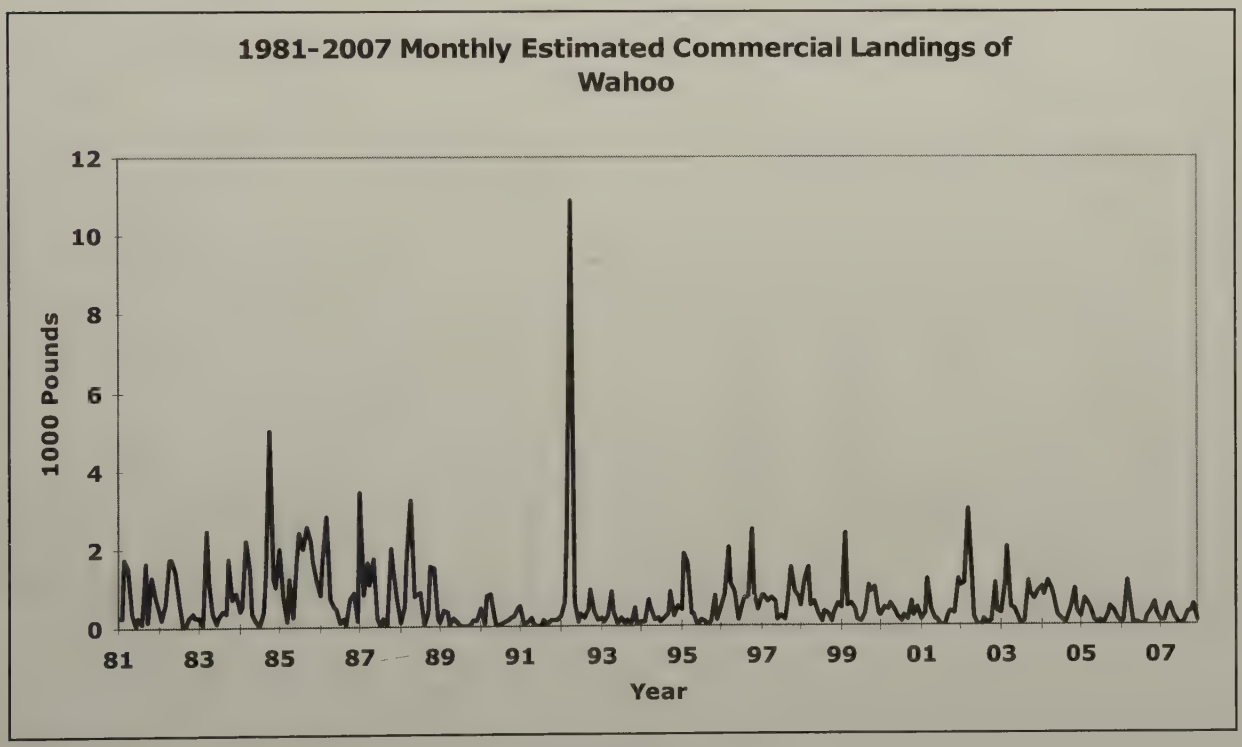

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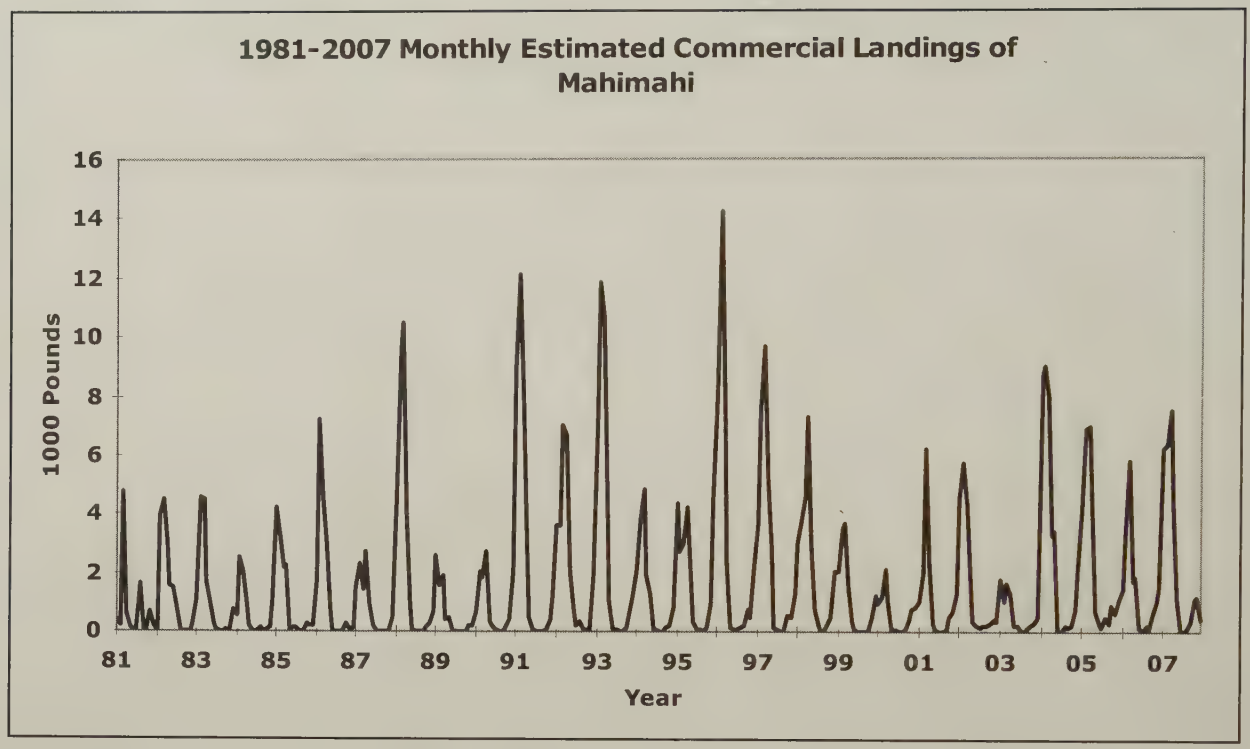

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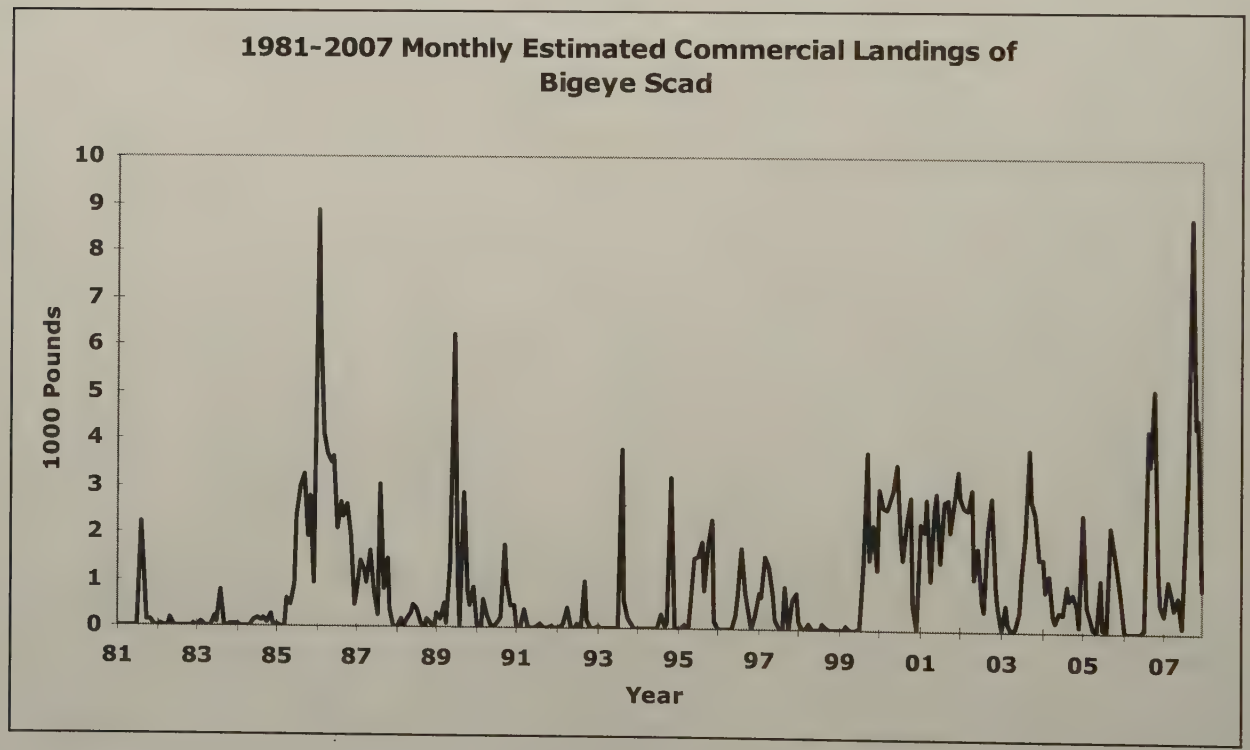


Figure B-4-6

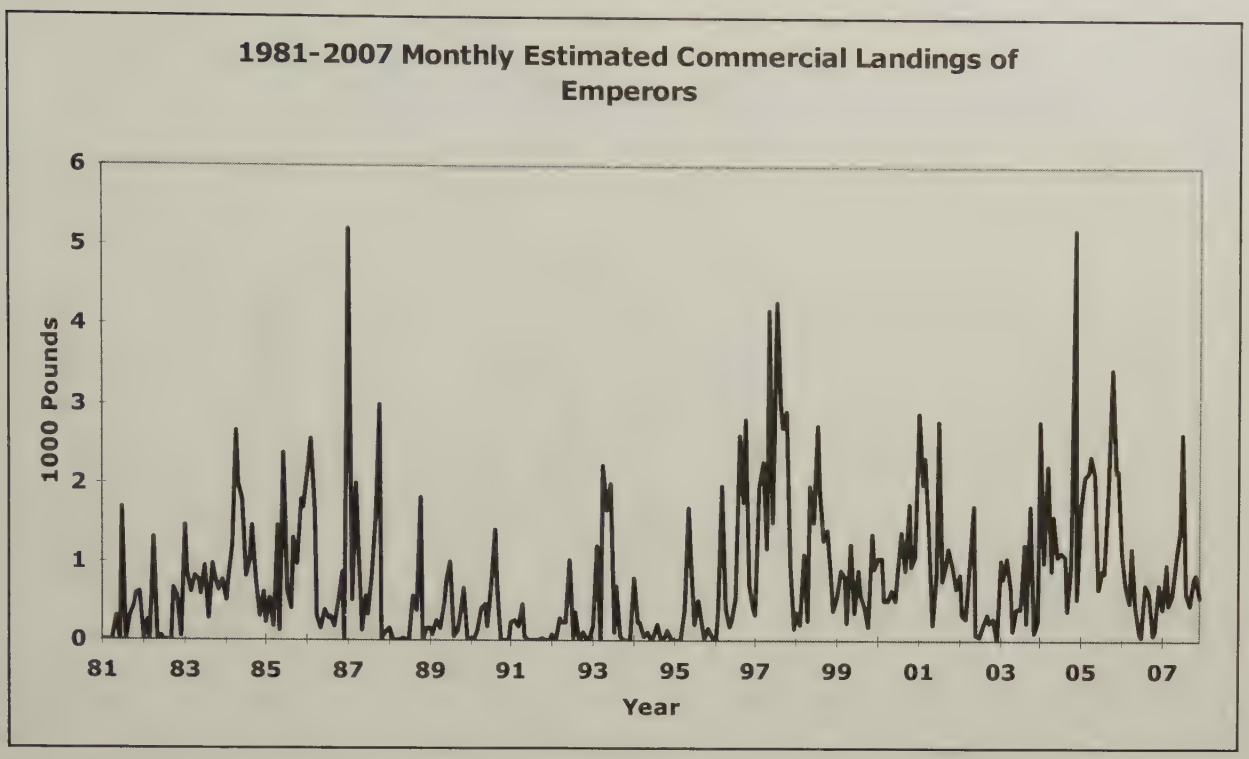
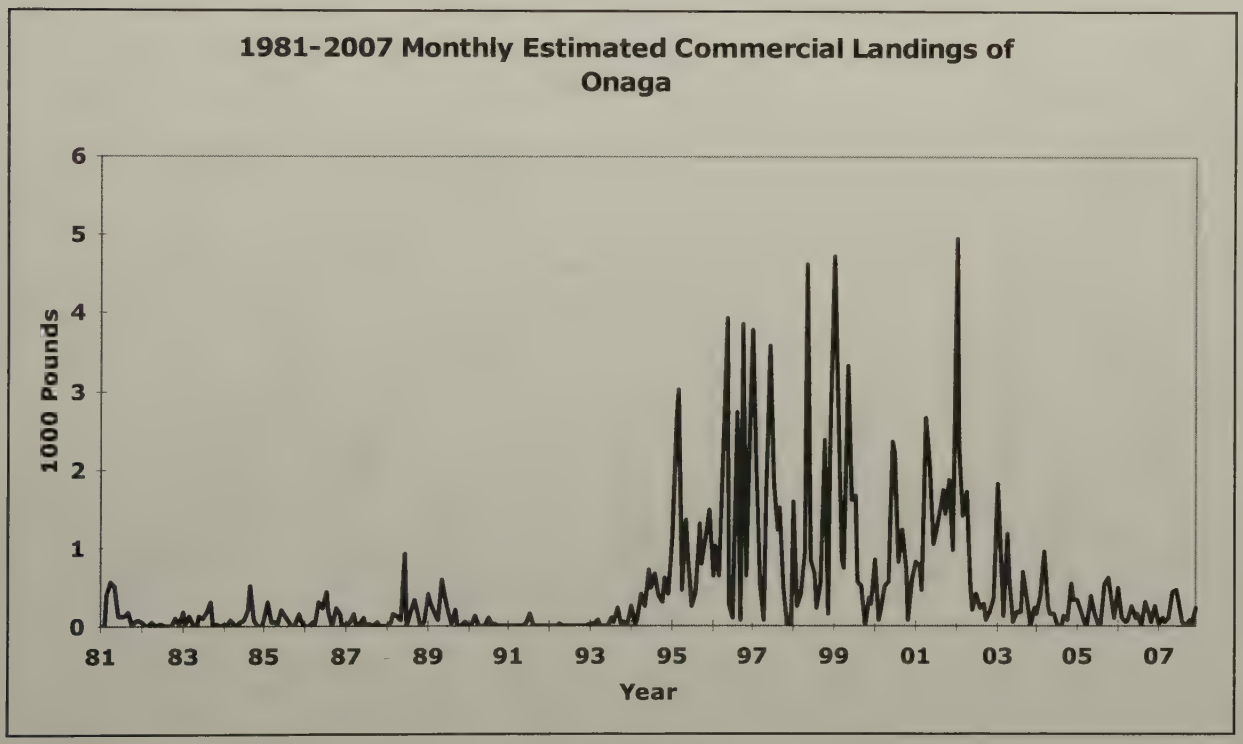


Figure B-4-7



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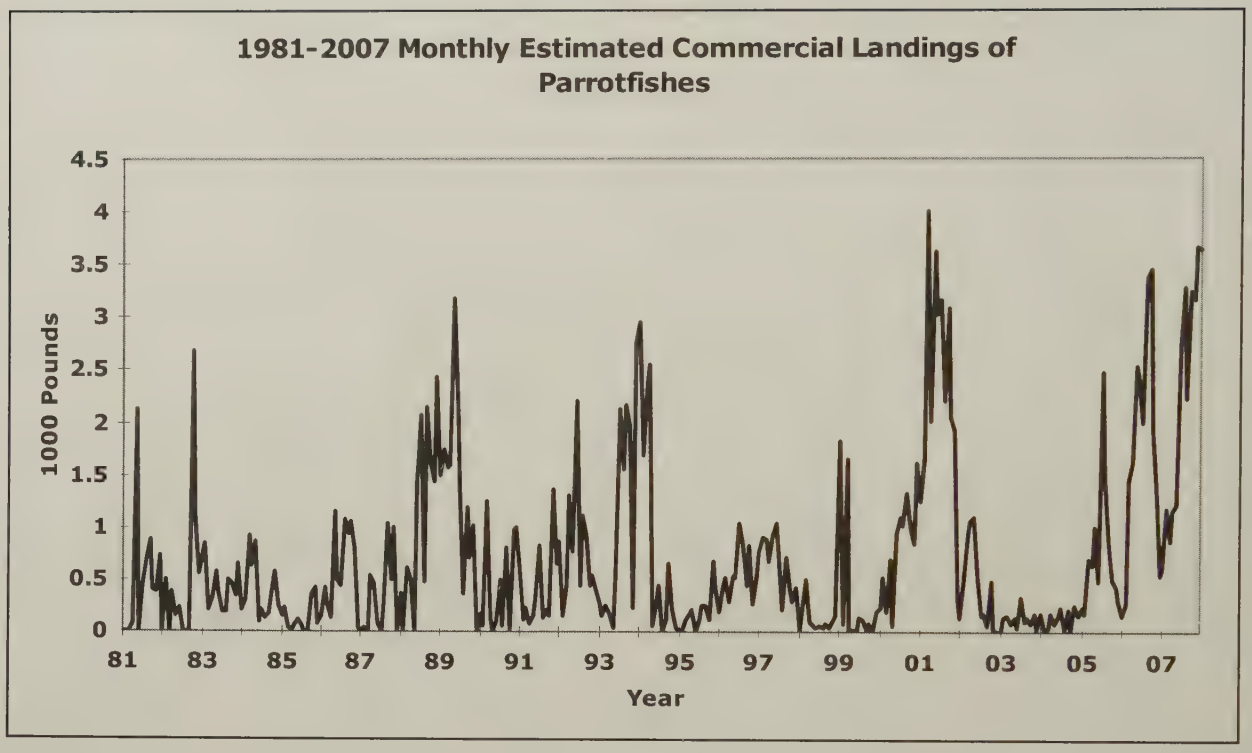

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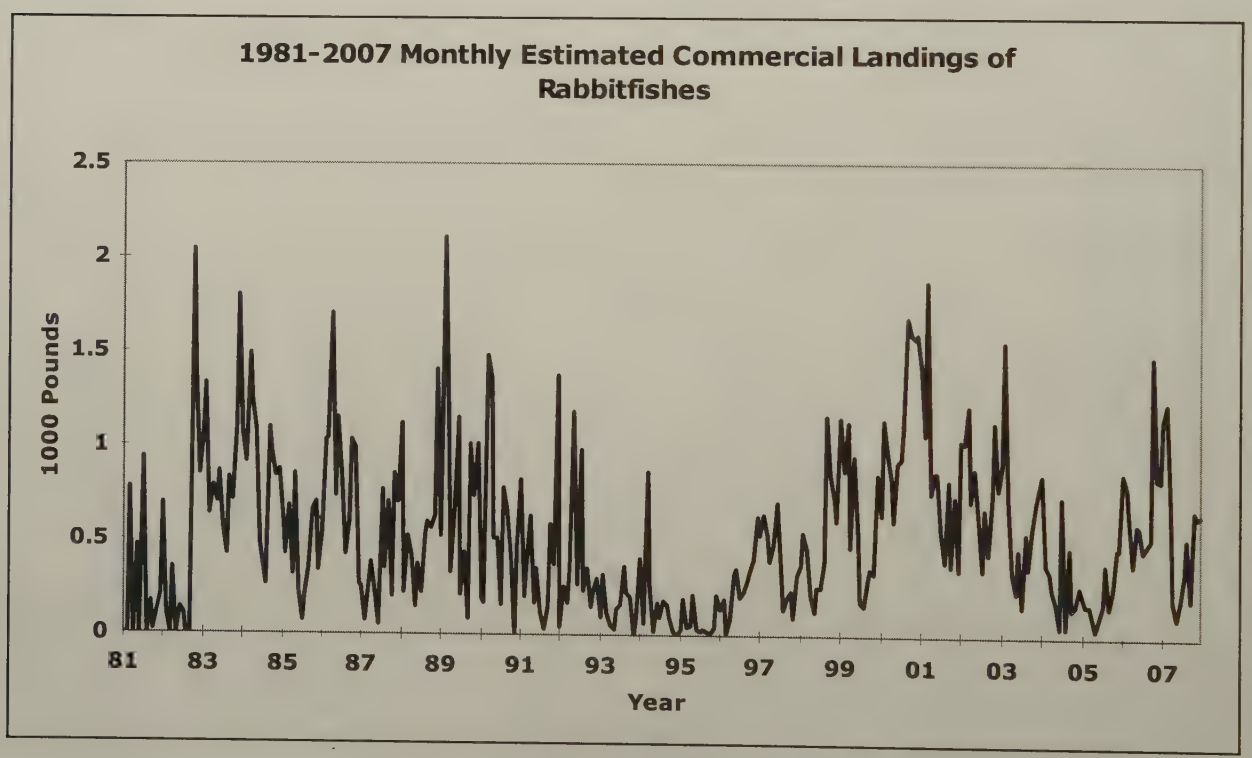

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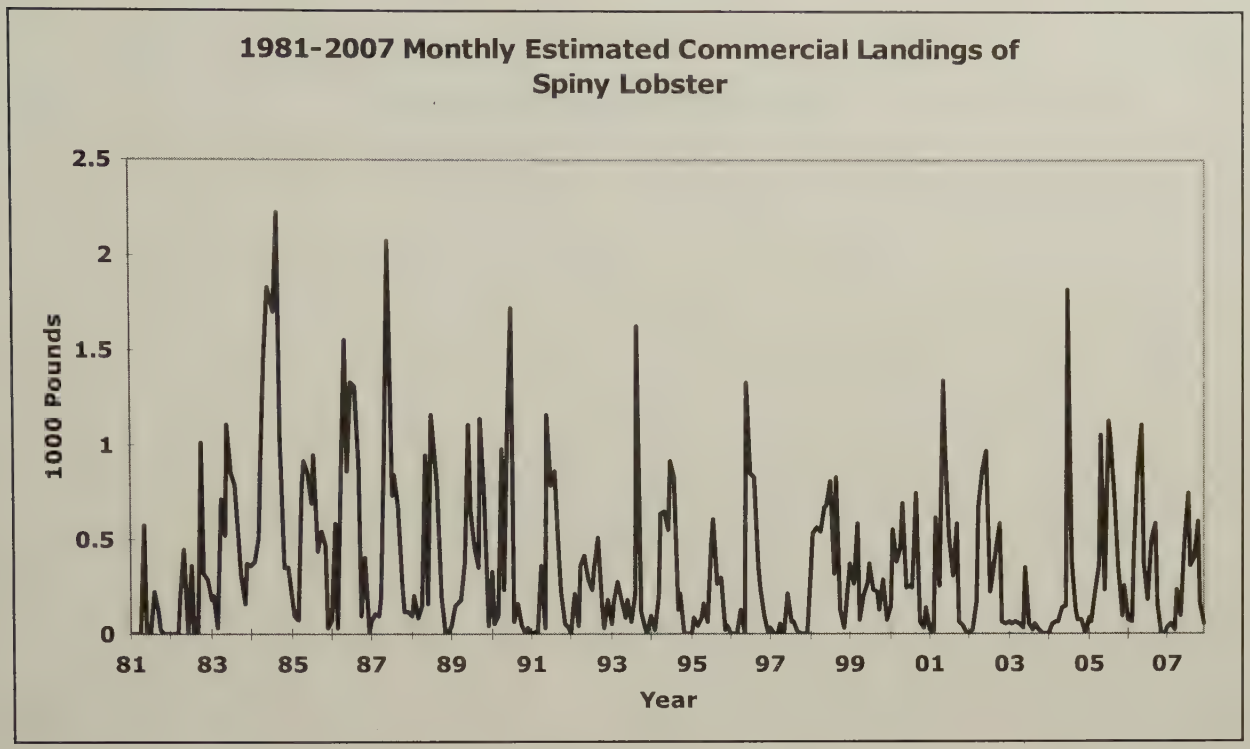
1981-2007 Monthly Estimated Commercial Landings of Spiny Lobster
1000 Pounds
2.5
2
1.5
1
0.5
0
81
83
85
87
89
91
93
95
97
99
01
03
05
07
Year

Figure B-4-11

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GUAM 2007 FISHERY STATISTICS

Compiled by

Guam Division of Aquatic and Wildlife Resources

and the

Western Pacific Fishery Information Network

June 2009

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GUAM 2007 FISHERY STATISTICS

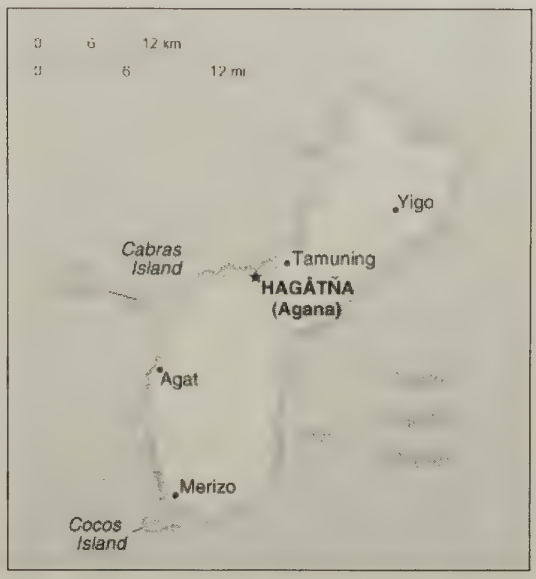
INTRODUCTION

The Territory of Guam is the southernmost, largest, and most populous island in the Mariana Archipelago.

Location: 13.4° N latitude, 144.7° E longitude

Population: about 176,000 (*The World Factbook,* 2009)

Economy: U.S. military and tourism



Guam:
Source: https://www.cia.gov/library/publications/the-world-factbook/maps/gq-map.gif; *The World Factbook*

Fishing activities on Guam are divided into two basic categories: offshore and inshore fishing. Offshore fishing typically involves small boats (12 to 48 feet) going on 1- to 2-day trolling and bottomfishing trips. They usually originate from one of the three principal harbors located on the west coast and southern tip of the island. Inshore fishing is usually conducted without the use of a boat and consists mostly of nearshore casting, netting, and spearfishing.

There are three sources of fish in Guam's commercial market: (1) full-time commercial fishers; (2) part-time commercial fishers; and (3) subsistence or recreational "expense" fishers who frequently sell portions of their catch to help defray costs. Licenses are not required to sell fish in Guam, nor are there any reporting requirements for those selling fish.

DATA COLLECTING

In 1982, WPacFIN began working with staff of the Guam Division of Aquatic and Wildlife Resources (DAWR) and with local fish dealers to obtain information on commercial landings through voluntary use of trip ticket invoices provided by WPacFIN. The tables and graphs in this section are based on data that are summarized from receipts submitted by all participating dealers on Guam and then adjusted to create the estimated total commercial landings based on an estimated annual percent coverage factor.

In July 1979, the Guam Fishermen's Cooperative was established in Agana through government funding. It subsequently became the central distribution center for fresh local fish. Prior to 1979 there was no central place to sell fish, and fishers had to develop their own markets and peddle fish after each trip.

In 1982, WPacFIN began working with the co-op to improve their invoicing system and to obtain data on all fish purchases. A system was established whereby the co-op would use forms and coding schemes designed by WPacFIN and supply copies of all invoices to WPacFIN for computer data entry. In return, WPacFIN would provide the co-op with document quality control and computer-generated summary statistics. All purchase data back to July 1979 were also coded and computerized. Over time, other fish markets began to operate, and DAWR and WPacFIN staff worked with them to obtain data through the voluntary receipt book program.

Data collected on commercial receipt forms include

- Date
- Number of Fishermen
- Area Fished
- Number of Pieces Caught
- Price per Pound
- Fisherman Code
- Hours Fished
- Species Caught
- Pounds Caught

Although a proposed law has been introduced several times that would require reporting by dealers and possibly commercial fishers, it has never made it very far through the legislative process, and the commercial landings data collection system remains voluntary.

DATA PROCESSING

At first, the data were processed at the central WPacFIN office in Honolulu. Beginning in 1994, however, DAWR staff took over this task using a computer and software provided by WPacFIN. The processing system for the commercial landings data collected from the fish dealers is fairly straightforward. Dealers complete a purchase form every time they purchase fish from a fisherman. On this form, catches are divided into categories for weighing by species or species group (where possible, number of pieces is also recorded).

DATA REPORTING

After completing all editing, adjusting, and quality control activities for the commercial landings data, monthly and annual summary reports by species are generated. Numerous standard reports are available, but only the monthly and annual landings by species are provided in this document.

Each table contains information on the pounds, value, and the average price per pound for each species or species group. Each monthly report contains a subtotal for the sum of all species combined for that month. Annual reports contain the estimated total landings for each species and the estimated total recorded landings for all species for the calendar year. Graphs

of some of the important statistics are included with the estimated commercial landings summary reports.

Please note that the commercial landings data have been adjusted to reflect total coverage and are referenced as "Estimated Commercial Landings" in the charts and tables. Also, some of the charts in this volume are new or modified from earlier volumes. To access the most up-to-date data and charts, please visit http://www.pifsc.noaa.gov/wpacfin.

SPECIES CATEGORIES

The species and species groups that are used in the tables and graphs of Guam's data are defined in this section. Many of the species included in this report have been recategorized over the years. For example, the Magnuson Fishery Conservation and Management Act of 1976 was amended in 1992 to include tunas in the Pelagic Management Unit Species (PMUS) category. However, this report maintains the original species categorizations from previous FSWP reports for comparative purposes. As such, tunas are kept in a separate category.

I. Pelagic Management Unit Species (PMUS)

- Mahimahi
- Marlins
- Sailfish
- Sharks
- Spearfish
- Swordfish
- Wahoo

II. Bottomfish Management Unit Species (BMUS)

- Alfonsin
- Amberjack
- Black jack
- Ehu (red snapper)
- Gindai (flower snapper)
- Groupers
- Jacks
- Kalikali (pink snapper)
- Lehi (silverjaw)
- Mafute (emperor)
- Onaga (red snapper)
- Opakapaka (pink snapper)
- Snappers
- Uku (gray snapper)

III. Billfishes

- Marlins
- Sailfish
- Spearfish
- Swordfish

IV. Tunas

- Dogtooth tuna
- Kawakawa
- Skipjack tuna
- Tunas (unknown)
- Yellowfin tuna

V. Other Tunas

- Dogtooth tuna
- Kawakawa
- Tunas (unknown)

VI. Fisheries Categories

A. *Pelagic Fishes*

- Barracudas
- Dogtooth tuna
- Kawakawa
- Mahimahi
- Marlins
- Monchong
- Pelagic fishes (unknown)
- Rainbow runner
- Sailfish
- Sharks
- Skipjack tuna
- Spearfish
- Swordfish
- Tunas (unknown)
- Wahoo
- Yellowfin tuna

B. *Bottomfishes*

- Alfonsin
- Amberjack
- Black jack
- Bottomfishes (unknown)
- Deep bottomfishes
- Ehu (red snapper)
- Gindai (flower snapper)
- Groupers
- Jacks
- Kalikali (pink snapper)
- Lehi (silverjaw)
- Mafute (emperor)
- Onaga (red snapper)
- Opakapaka (pink snappper)
- Tagafi (red snapper)
- Uku (gray snapper)

C. *Reef Fishes*

- Goatfishes
- Humphead parrotfish
- Napoleon wrasse
- Parrotfishes
- Rabbitfishes
- Reef fishes (unknown)
- Rudderfish (guilli)
- Snappers
- Squirrelfishes
- Surgeonfishes
- Sweetlips
- Unicornfishes
- Wrasses

D. *Other Fishes*

- Bigeye scad (atulai)
- Coconut crab
- Crabs
- Eels (freshwater)
- Invertebrates
- Kona crab
- Lemu
- Lobsters
- Milkfish
- Miscellaneous
- Mullets
- Octopus
- Seaweeds
- Shrimp (freshwater)
- Shrimp (saltwater)
- Squid
- Turtles

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Table C-1
Guam Annual 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Miscellaneous	555	1,484	2.67
Bigeye scad (atulai)	5,298	13,228	2.50
Black jack	102	229	2.24
Jacks	3,813	9,699	2.54
Napoleon wrasse	1,472	4,037	2.74
Humphead parrotfish	45	113	2.50
Bottomfishes (unknown)	710	1,776	2.50
Ehu (red snapper)	236	932	3.96
Gindai (flower snapper)	557	2,228	4.00
Groupers	964	2,730	2.83
Kalikali (pink snapper)	1,783	5,403	3.03
Lehi (silverjaw)	752	2,698	3.59
Onaga (red snapper)	956	4,751	4.97
Opakapaka (pink snappper)	735	2,878	3.92
Uku (gray snapper)	1,152	2,996	2.60
Tagafi (red snapper)	77	165	2.14
Amberjack	697	1,914	2.75
Reef fishes (unknown)	92,470	277,281	3.00
Rabbitfishes	2,443	7,284	2.98
Rudderfish (guilli)	884	2,543	2.88
Mafute (emperor)	3,095	7,898	2.55
Squirrelfishes	733	1,870	2.55
Parrotfishes	339	913	2.70
Snappers	1,233	3,182	2.58
Surgeonfishes	9,561	24,234	2.53
Unicornfishes	24,133	62,413	2.59
Goatfishes	118	352	2.97
Sweetlips	123	308	2.50
Pelagic fishes (unknown)	28	36	1.25
Barracudas	4,212	7,436	1.77
Mahimahi	106,218	175,813	1.66
Swordfish	18	46	2.50
Marlins	30,795	40,011	1.30
Spearfish	55	68	1.25
Sailfish	4,147	5,893	1.42
Rainbow runner	4,573	8,059	1.76
Monchong	1,441	3,267	2.27
Wahoo	35,987	71,286	1.98
Skipjack tuna	47,929	58,913	1.23
Dogtooth tuna	1,226	1,602	1.31
Yellowfin tuna	24,341	50,288	2.07
Invertebrates	7	26	3.75

Table C-1 (continued)
Guam Annual 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Crabs	124	345	2.79
Lobsters	4,725	16,878	3.57
Octopus	1,292	3,715	2.88
TOTAL	422,153	889,221	2.11

Table C-2
Guam January 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad (atulai)	58	175	3.00
Jacks	11	30	2.75
Napoleon wrasse	132	362	2.75
Groupers	145	378	2.61
Reef fishes (unknown)	9,230	27,621	2.99
Rabbitfishes	81	202	2.50
Rudderfish (guilli)	238	715	3.00
Mafute (emperor)	130	289	2.23
Squirrelfishes	162	427	2.64
Parrotfishes	202	504	2.50
Snappers	172	487	2.83
Surgeonfishes	220	598	2.72
Unicornfishes	379	976	2.57
Goatfishes	7	17	2.50
Barracudas	62	123	2.00
Mahimahi	8,306	14,481	1.74
Marlins	352	527	1.50
Sailfish	167	237	1.42
Rainbow runner	15	22	1.50
Monchong	19	43	2.25
Wahoo	1,164	2,366	2.03
Skipjack tuna	1,080	1,327	1.23
Dogtooth tuna	29	33	1.13
Yellowfin tuna	214	439	2.06
Invertebrates	7	26	3.75
Lobsters	36	130	3.57
Octopus	312	840	2.69
TOTAL	22,928	53,378	2.33

Table C-3
Guam February 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Miscellaneous	8	19	2.50
Jacks	173	398	2.30
Napoleon wrasse	54	148	2.75
Bottomfishes (unknown)	4	15	4.00
Gindai (flower snapper)	7	28	4.00
Groupers	117	316	2.69
Kalikali (pink snapper)	5	14	3.00
Lehi (silverjaw)	35	123	3.57
Opakapaka (pink snappper)	53	212	4.00
Uku (gray snapper)	22	53	2.36
Amberjack	28	80	2.90
Reef fishes (unknown)	8,857	26,571	3.00
Rabbitfishes	248	743	3.00
Rudderfish (guilli)	135	345	2.55
Mafute (emperor)	78	231	2.97
Squirrelfishes	183	458	2.50
Parrotfishes	77	231	3.00
Snappers	153	383	2.50
Surgeonfishes	565	1,412	2.50
Unicornfishes	1,402	3,666	2.61
Barracudas	209	339	1.62
Mahimahi	23,834	38,934	1.63
Marlins	945	1,374	1.45
Spearfish	55	68	1.25
Sailfish	372	572	1.54
Rainbow runner	84	168	2.00
Wahoo	5,753	11,544	2.01
Skipjack tuna	1,975	2,627	1.33
Dogtooth tuna	140	168	1.20
Yellowfin tuna	1,489	2,997	2.01
Lobsters	615	1,767	2.87
Octopus	240	662	2.76
TOTAL	47,913	96,666	2.02

Table C-4
Guam March 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad (atulai)	76	228	3.00
Jacks	125	337	2.68
Napoleon wrasse	68	186	2.75
Lehi (silverjaw)	34	118	3.50
Reef fishes (unknown)	8,187	24,561	3.00
Mafute (emperor)	206	327	1.59
Squirrelfishes	74	185	2.50
Surgeonfishes	219	548	2.50
Unicornfishes	306	765	2.50
Barracudas	40	80	2.00
Mahimahi	28,272	48,427	1.71
Swordfish	18	46	2.50
Marlins	4,709	7,070	1.50
Sailfish	3,331	4,696	1.41
Rainbow runner	1,341	1,806	1.35
Wahoo	5,002	9,691	1.94
Skipjack tuna	2,519	3,082	1.22
Dogtooth tuna	85	138	1.63
Yellowfin tuna	885	1,626	1.84
Lobsters	97	365	3.75
Octopus	19	57	3.00
TOTAL	55,613	104,340	1.88

Table C-5
Guam April 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Miscellaneous	146	365	2.50
Bigeye scad (atulai)	118	353	3.00
Jacks	171	453	2.66
Napoleon wrasse	149	410	2.75
Groupers	18	55	3.00
Onaga (red snapper)	15	73	5.00
Opakapaka (pink snappper)	52	206	4.00
Uku (gray snapper)	98	255	2.61
Amberjack	22	60	2.71
Reef fishes (unknown)	6,118	18,306	2.99
Mafute (emperor)	208	567	2.72
Squirrelfishes	15	38	2.50
Snappers	32	81	2.50
Surgeonfishes	989	2,477	2.50
Unicornfishes	1,807	4,527	2.51
Sweetlips	17	42	2.50
Barracudas	1,732	2,831	1.63
Mahimahi	24,780	39,659	1.60
Marlins	1,728	2,574	1.49
Sailfish	75	119	1.60
Rainbow runner	197	387	1.97
Wahoo	4,729	9,329	1.97
Skipjack tuna	4,625	5,656	1.22
Dogtooth tuna	36	45	1.25
Yellowfin tuna	1,033	1,895	1.83
Lobsters	317	1,189	3.75
TOTAL	49,227	91,955	1.87

Table C-6
Guam May 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad (atulai)	35	88	2.50
Black jack	16	20	1.25
Jacks	844	2,095	2.48
Napoleon wrasse	215	592	2.75
Humphead parrotfish	45	113	2.50
Bottomfishes (unknown)	415	1,037	2.50
Gindai (flower snapper)	23	92	4.00
Groupers	44	121	2.75
Kalikali (pink snapper)	73	219	3.00
Lehi (silverjaw)	33	132	4.00
Onaga (red snapper)	15	73	5.00
Opakapaka (pink snappper)	94	375	4.00
Uku (gray snapper)	212	557	2.62
Tagafi (red snapper)	59	118	2.00
Amberjack	42	107	2.56
Reef fishes (unknown)	6,234	18,689	3.00
Rabbitfishes	707	2,121	3.00
Rudderfish (guilli)	192	575	3.00
Mafute (emperor)	301	752	2.50
Snappers	177	452	2.56
Surgeonfishes	775	1,938	2.50
Unicornfishes	2,402	6,083	2.53
Pelagic fishes (unknown)	28	36	1.25
Barracudas	842	1,435	1.70
Mahimahi	11,636	19,230	1.65
Marlins	3,912	5,598	1.43
Rainbow runner	576	1,172	2.04
Wahoo	1,928	3,853	2.00
Skipjack tuna	8,806	10,720	1.22
Dogtooth tuna	247	303	1.23
Yellowfin tuna	6,288	13,118	2.09
Lobsters	571	2,138	3.74
Octopus	102	291	2.87
TOTAL	47,890	94,247	1.97

Table C-7
Guam June 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Miscellaneous	7	22	3.00
Bigeye scad (atulai)	190	570	3.00
Black jack	27	67	2.50
Jacks	215	545	2.53
Napoleon wrasse	196	537	2.74
Bottomfishes (unknown)	271	677	2.50
Groupers	96	281	2.92
Kalikali (pink snapper)	16	48	3.00
Lehi (silverjaw)	79	288	3.64
Opakapaka (pink snappper)	163	592	3.63
Uku (gray snapper)	245	623	2.54
Amberjack	20	51	2.55
Reef fishes (unknown)	6,730	20,189	3.00
Rabbitfishes	34	102	3.00
Rudderfish (guilli)	53	159	3.00
Mafute (emperor)	306	795	2.60
Snappers	439	1,098	2.50
Surgeonfishes	1,042	2,650	2.54
Unicornfishes	3,501	8,752	2.50
Barracudas	140	263	1.88
Mahimahi	892	1,302	1.46
Marlins	7,855	9,586	1.22
Rainbow runner	598	1,197	2.00
Monchong	436	981	2.25
Wahoo	712	1,425	2.00
Skipjack tuna	11,092	13,416	1.21
Dogtooth tuna	40	44	1.11
Yellowfin tuna	5,878	12,715	2.16
Crabs	19	48	2.50
Lobsters	671	2,460	3.67
Octopus	15	46	3.00
TOTAL	41,981	81,528	1.94

Table C-8
Guam July 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Miscellaneous	102	284	2.77
Bigeye scad (atulai)	113	339	3.00
Black jack	20	50	2.50
Jacks	563	1,415	2.51
Bottomfishes (unknown)	21	47	2.25
Ehu (red snapper)	63	252	4.00
Gindai (flower snapper)	127	508	4.00
Groupers	320	946	2.96
Kalikali (pink snapper)	254	797	3.14
Lehi (silverjaw)	64	223	3.50
Onaga (red snapper)	39	196	5.00
Opakapaka (pink snappper)	33	132	4.00
Uku (gray snapper)	346	895	2.59
Tagafi (red snapper)	7	14	2.00
Amberjack	142	336	2.36
Reef fishes (unknown)	7,118	21,353	3.00
Rabbitfishes	329	988	3.00
Rudderfish (guilli)	22	65	3.00
Mafute (emperor)	1,226	3,237	2.64
Parrotfishes	45	134	3.00
Snappers	87	228	2.63
Surgeonfishes	816	1,993	2.44
Unicornfishes	1,402	3,790	2.70
Goatfishes	101	302	3.00
Barracudas	152	295	1.94
Mahimahi	670	534	0.80
Marlins	3,505	4,264	1.22
Rainbow runner	387	772	1.99
Monchong	333	749	2.25
Wahoo	878	1,757	2.00
Skipjack tuna	6,838	8,332	1.22
Dogtooth tuna	252	309	1.23
Yellowfin tuna	3,276	6,924	2.11
Crabs	27	81	3.00
Lobsters	455	1,699	3.73
Octopus	216	591	2.74
TOTAL	30,349	64,830	2.14

Table C-9
Guam August 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Miscellaneous	185	531	2.86
Bigeye scad (atulai)	1,820	5,090	2.80
Black jack	21	48	2.33
Jacks	463	1,198	2.59
Napoleon wrasse	85	235	2.75
Ehu (red snapper)	111	444	4.00
Gindai (flower snapper)	137	548	4.00
Groupers	82	247	3.00
Kalikali (pink snapper)	275	826	3.00
Lehi (silverjaw)	53	193	3.63
Onaga (red snapper)	62	312	5.00
Opakapaka (pink snappper)	103	412	4.00
Uku (gray snapper)	85	235	2.75
Reef fishes (unknown)	6,924	20,772	3.00
Rabbitfishes	622	1,865	3.00
Rudderfish (guilli)	12	36	3.00
Mafute (emperor)	285	780	2.73
Parrotfishes	15	45	2.91
Snappers	49	136	2.79
Surgeonfishes	1,428	3,756	2.63
Unicornfishes	4,032	10,747	2.67
Goatfishes	11	32	3.00
Sweetlips	18	44	2.50
Barracudas	262	523	2.00
Mahimahi	66	113	1.71
Marlins	5,413	6,139	1.13
Sailfish	83	104	1.25
Rainbow runner	162	323	2.00
Monchong	280	630	2.25
Wahoo	1,092	2,183	2.00
Skipjack tuna	4,375	5,401	1.23
Dogtooth tuna	102	123	1.21
Yellowfin tuna	1,834	3,626	1.98
Crabs	45	134	3.00
Lobsters	632	2,178	3.44
Octopus	109	277	2.54
TOTAL	31,332	70,282	2.24

Table C-10
Guam September 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Miscellaneous	4	10	2.50
Bigeye scad (atulai)	2,796	6,170	2.21
Jacks	718	1,884	2.62
Napoleon wrasse	336	917	2.73
Ehu (red snapper)	48	184	3.79
Gindai (flower snapper)	133	534	4.00
Groupers	58	154	2.63
Kalikali (pink snapper)	672	2,015	3.00
Lehi (silverjaw)	61	229	3.77
Onaga (red snapper)	187	905	4.84
Opakapaka (pink snappper)	122	486	4.00
Uku (gray snapper)	71	184	2.60
Amberjack	11	32	3.00
Reef fishes (unknown)	7,100	21,301	3.00
Rabbitfishes	166	497	3.00
Rudderfish (guilli)	98	244	2.50
Mafute (emperor)	117	297	2.54
Snappers	95	245	2.59
Surgeonfishes	1,408	3,520	2.50
Unicornfishes	2,784	7,087	2.55
Sweetlips	38	94	2.50
Barracudas	293	586	2.00
Mahimahi	33	58	1.75
Marlins	1,392	1,487	1.07
Sailfish	63	79	1.25
Rainbow runner	171	342	2.00
Monchong	175	393	2.25
Wahoo	2,918	5,809	1.99
Skipjack tuna	3,497	4,239	1.21
Dogtooth tuna	66	94	1.42
Yellowfin tuna	848	1,648	1.94
Lobsters	494	1,845	3.73
Octopus	110	280	2.55
TOTAL	27,081	63,847	2.36

Table C-11
Guam October 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Miscellaneous	6	12	2.00
Bigeye scad (atulai)	52	118	2.25
Black jack	8	19	2.50
Jacks	280	721	2.58
Napoleon wrasse	236	649	2.75
Ehu (red snapper)	6	25	4.00
Gindai (flower snapper)	50	199	4.00
Groupers	67	185	2.76
Kalikali (pink snapper)	243	729	3.00
Lehi (silverjaw)	105	375	3.55
Onaga (red snapper)	469	2,346	5.00
Opakapaka (pink snappper)	103	412	4.00
Uku (gray snapper)	57	154	2.71
Tagafi (red snapper)	11	32	3.00
Amberjack	60	154	2.56
Reef fishes (unknown)	8,998	26,993	3.00
Rabbitfishes	12	31	2.50
Mafute (emperor)	188	501	2.66
Squirrelfishes	9	28	3.00
Snappers	29	71	2.44
Surgeonfishes	965	2,436	2.53
Unicornfishes	2,898	7,280	2.51
Sweetlips	12	29	2.50
Barracudas	183	366	2.00
Mahimahi	718	1,257	1.75
Marlins	160	256	1.60
Rainbow runner	225	435	1.93
Monchong	118	292	2.46
Wahoo	2,507	4,956	1.98
Skipjack tuna	1,342	1,831	1.36
Dogtooth tuna	158	248	1.57
Yellowfin tuna	935	1,862	1.99
Crabs	22	56	2.50
Lobsters	288	1,079	3.75
Octopus	137	573	4.20
TOTAL	21,657	56,712	2.62

Table C-12
Guam November 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Bigeye scad (atulai)	38	97	2.52
Black jack	11	24	2.25
Jacks	75	192	2.57
Gindai (flower snapper)	51	202	4.00
Groupers	5	16	3.00
Kalikali (pink snapper)	175	524	3.00
Lehi (silverjaw)	35	123	3.57
Onaga (red snapper)	18	92	5.00
Opakapaka (pink snappper)	12	49	4.00
Uku (gray snapper)	15	40	2.63
Amberjack	362	1,068	2.95
Reef fishes (unknown)	7,672	23,015	3.00
Rabbitfishes	245	736	3.00
Rudderfish (guilli)	135	404	3.00
Mafute (emperor)	36	94	2.60
Squirrelfishes	76	190	2.50
Surgeonfishes	762	1,933	2.54
Unicornfishes	1,515	4,017	2.65
Sweetlips	24	60	2.50
Barracudas	135	271	2.00
Mahimahi	1,838	2,918	1.59
Marlins	591	764	1.29
Rainbow runner	138	265	1.92
Wahoo	4,816	9,097	1.89
Skipjack tuna	1,506	1,883	1.25
Dogtooth tuna	35	44	1.25
Yellowfin tuna	311	599	1.93
Crabs	11	27	2.50
Lobsters	483	1,811	3.75
TOTAL	21,127	50,555	2.39

Table C-13
Guam December 2007 Estimated Commercial Landings

Species	Pounds	Value ($)	Price/Lb ($)
Miscellaneous	96	240	2.50
Jacks	175	432	2.47
Ehu (red snapper)	7	28	4.00
Gindai (flower snapper)	29	117	4.00
Groupers	11	32	3.00
Kalikali (pink snapper)	70	229	3.27
Lehi (silverjaw)	254	892	3.51
Onaga (red snapper)	151	754	5.00
Amberjack	9	25	2.75
Reef fishes (unknown)	9,304	27,912	3.00
Mafute (emperor)	12	28	2.25
Squirrelfishes	214	544	2.54
Surgeonfishes	372	974	2.62
Unicornfishes	1,705	4,725	2.77
Sweetlips	15	38	2.50
Barracudas	162	323	2.00
Mahimahi	5,172	8,898	1.72
Marlins	232	372	1.60
Sailfish	57	85	1.50
Rainbow runner	680	1,171	1.72
Monchong	79	178	2.25
Wahoo	4,488	9,276	2.07
Skipjack tuna	275	399	1.45
Dogtooth tuna	37	52	1.40
Yellowfin tuna	1,352	2,840	2.10
Lobsters	65	219	3.38
Octopus	32	97	3.00
TOTAL	25,055	60,880	2.43

The following are summary charts of the major species and species groups by month:

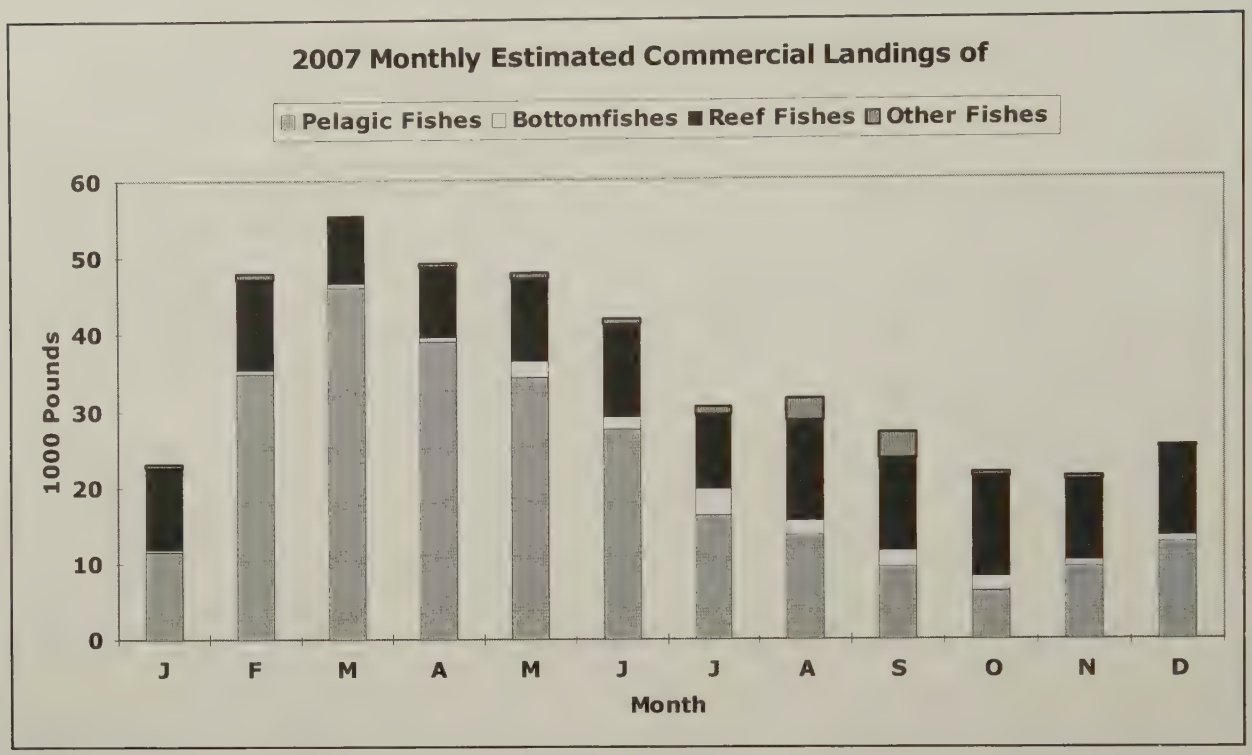


Figure C-1-1

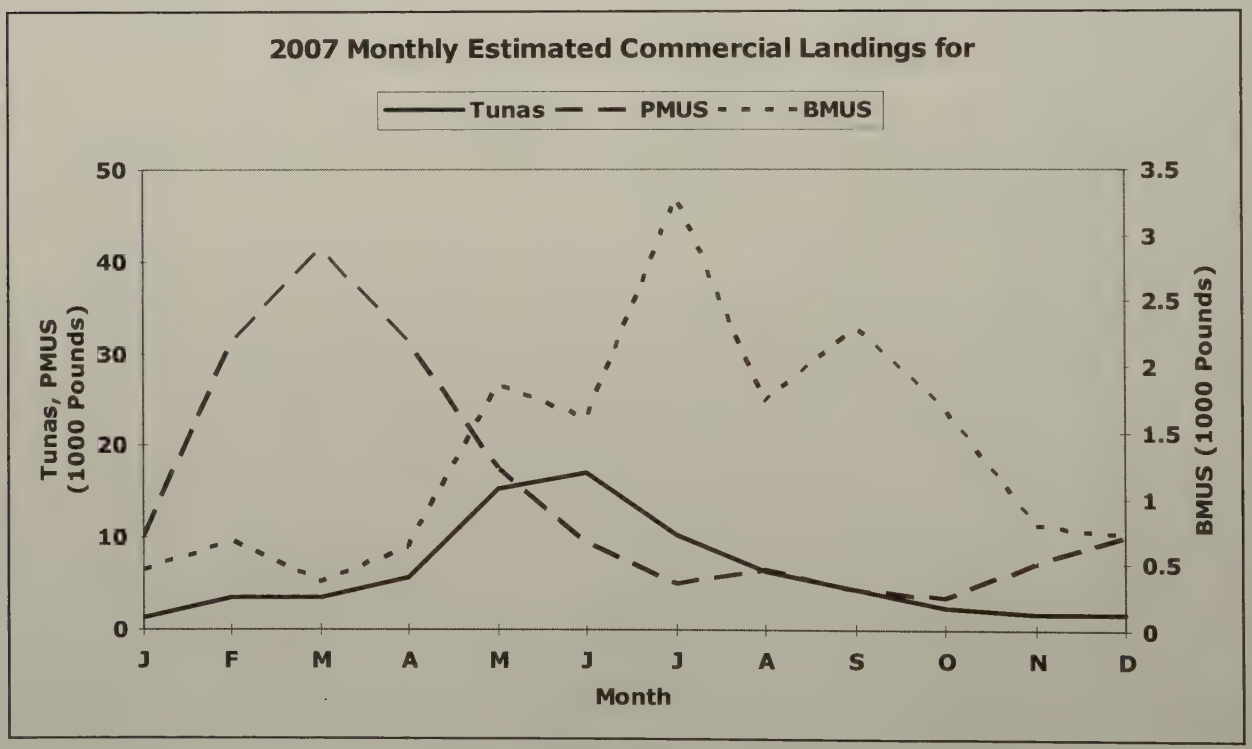


Figure C-1-2

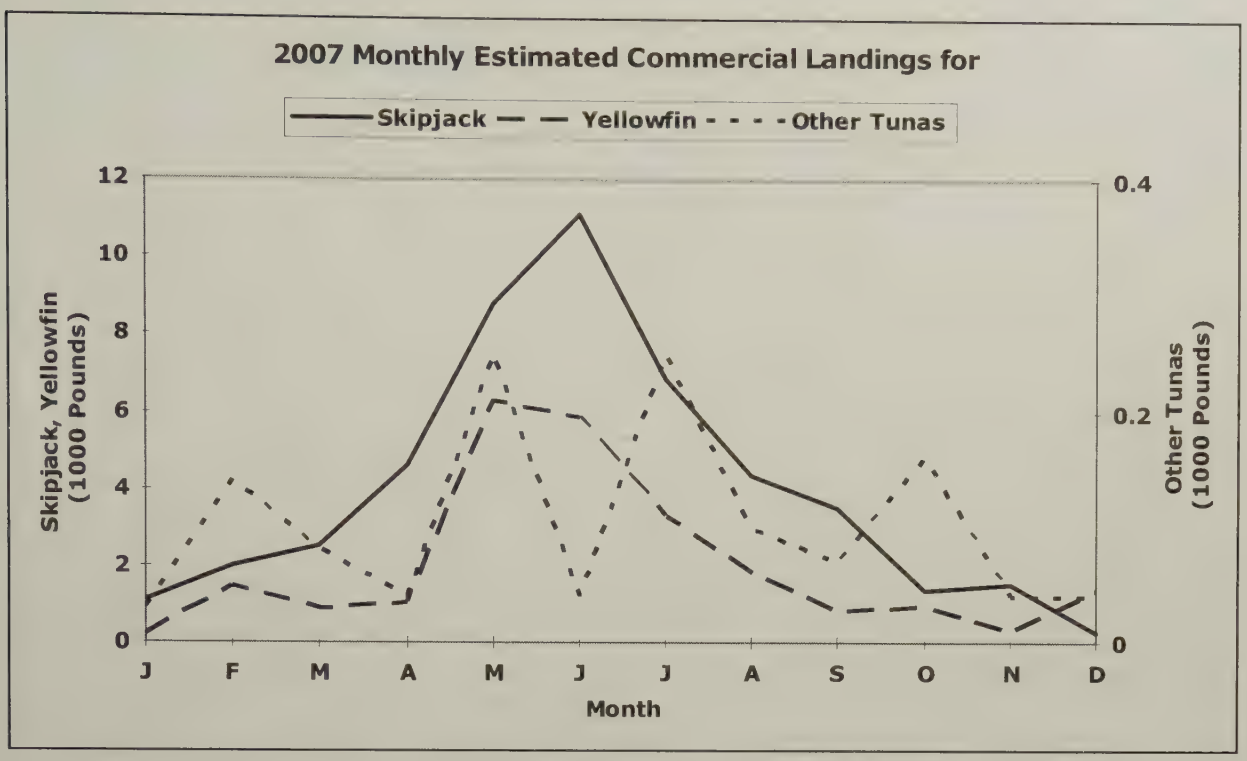


Figure C-1-3

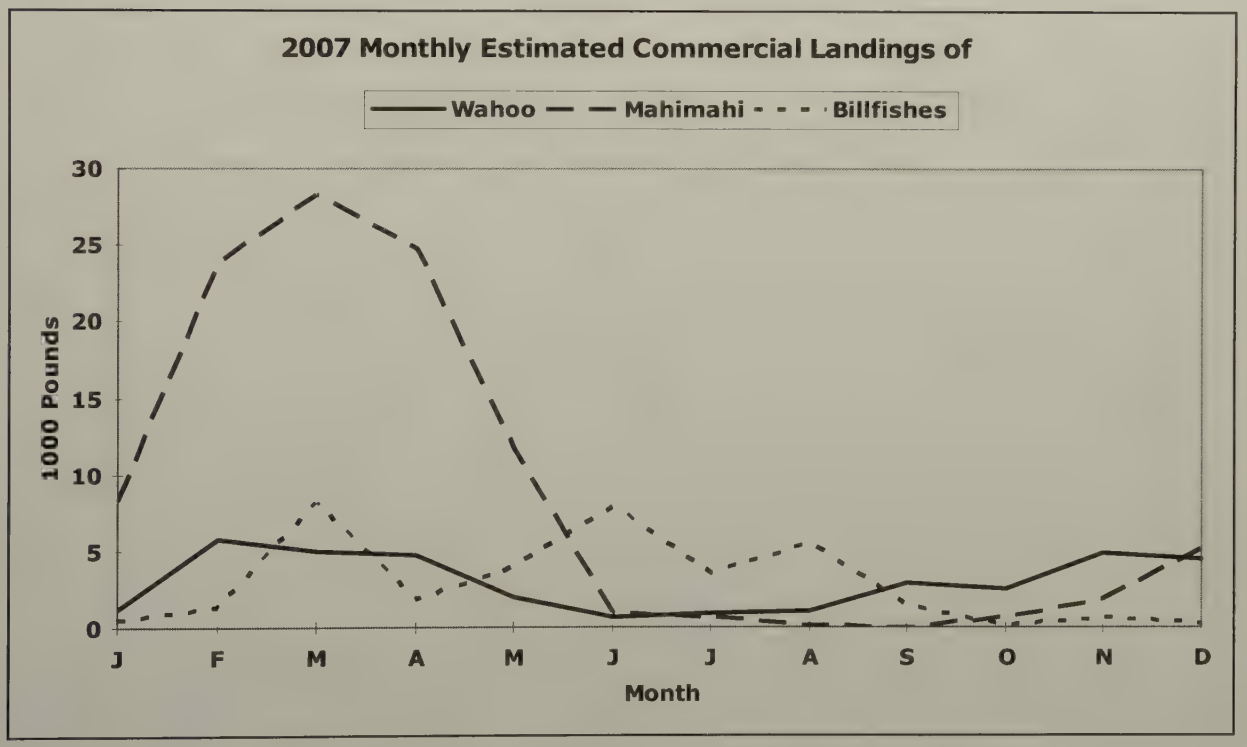


Figure C-1-4

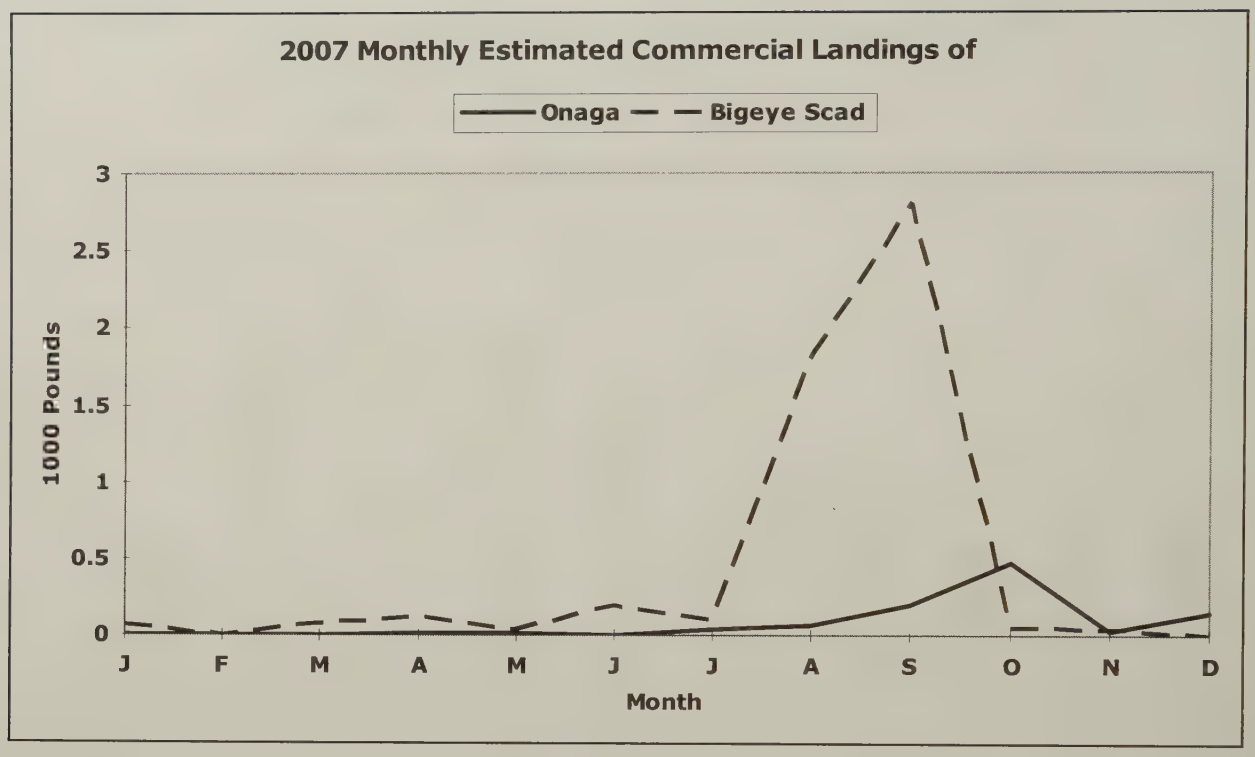

2007 Monthly Estimated Commercial Landings of
Onaga
Bigeye Scad
1000 Pounds
3
2.5
2
1.5
1
0.5
0
J
F
M
A
M
J
J
A
S
O
N
D
Month

Figure C-1-5

The following are seasonality plots for the major species or species groups, showing the average weight landed during each month for all years combined:

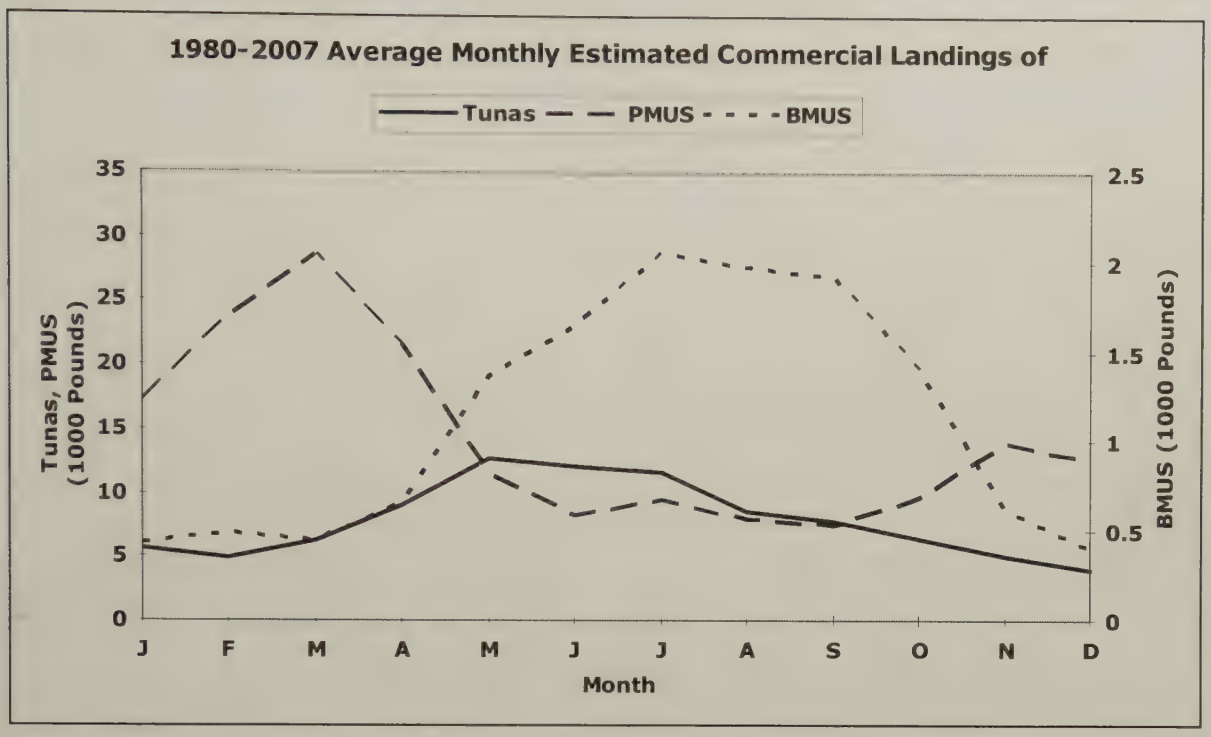


Figure C-2-1

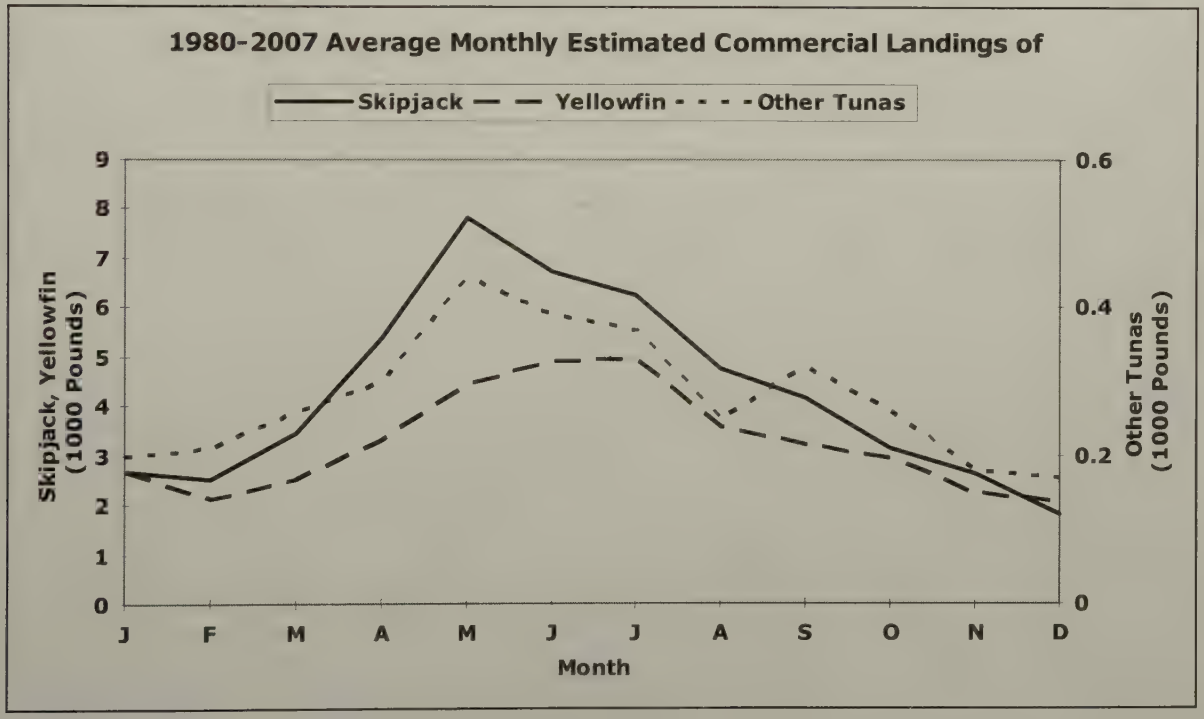


Figure C-2-2

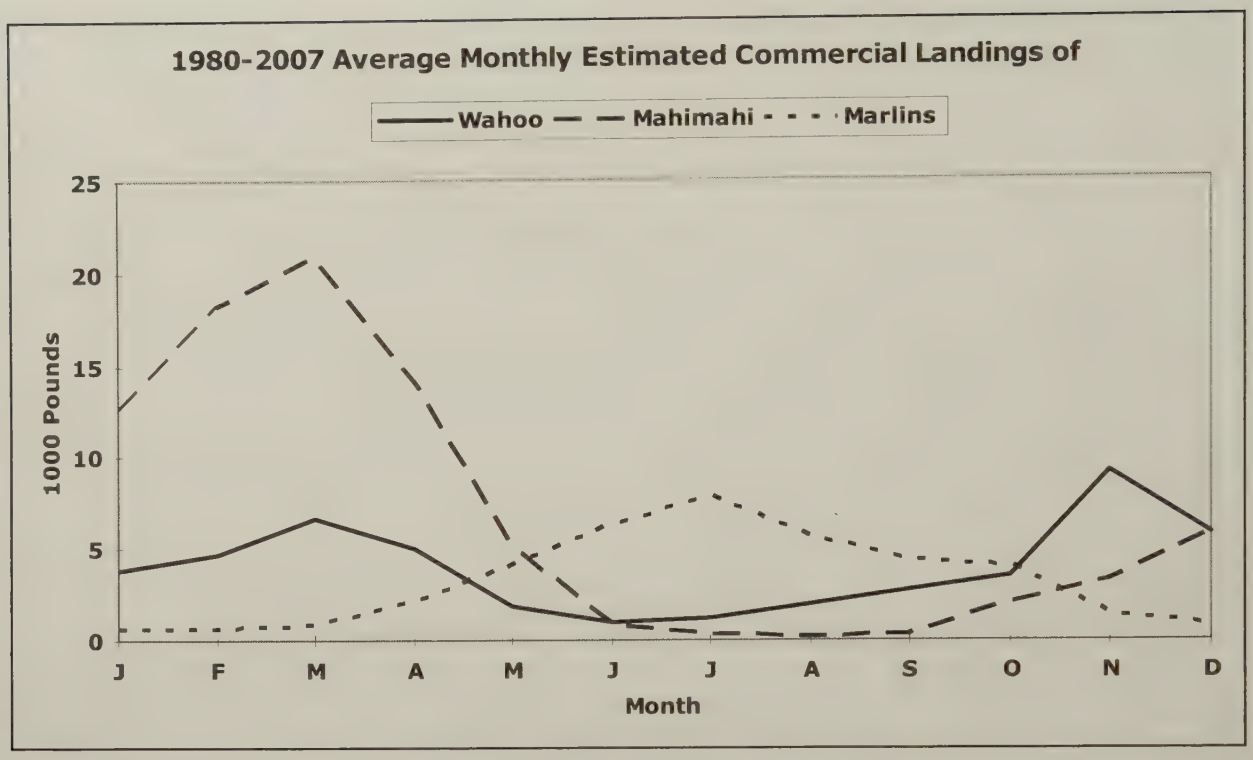


Figure C-2-3

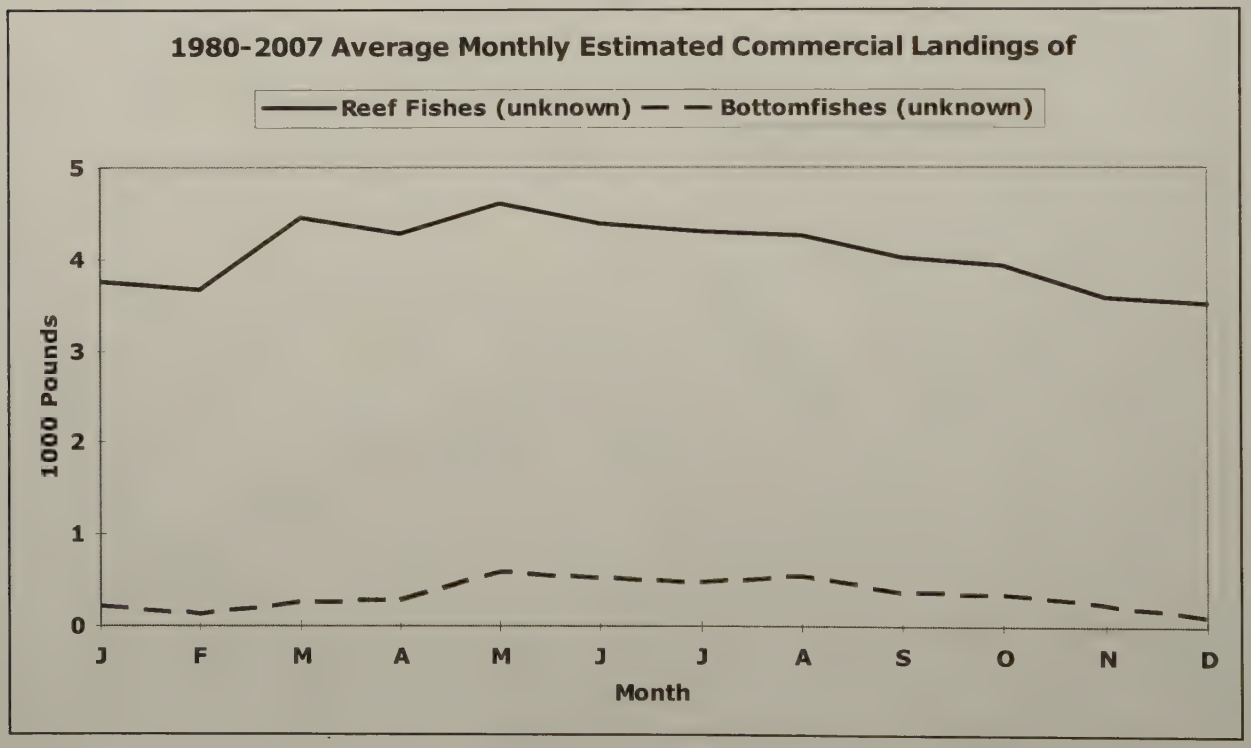


Figure C-2-4

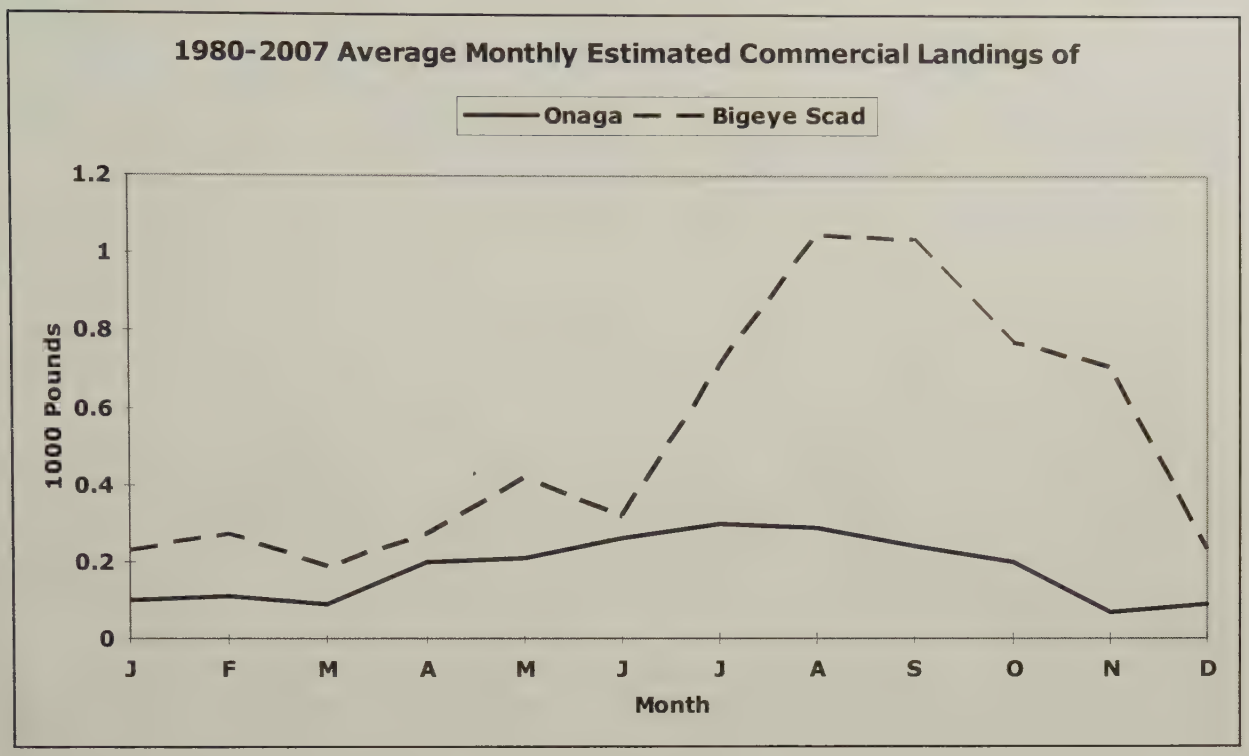

1980-2007 Average Monthly Estimated Commercial Landings of
Onaga
Bigeye Scad
1000 Pounds
1.2
1
0.8
0.6
0.4
0.2
0
J
F
M
A
M
J
J
A
S
O
N
D
Month

Figure C-2-5

The following graphs plot annual summary statistics to illustrate the variability among years:

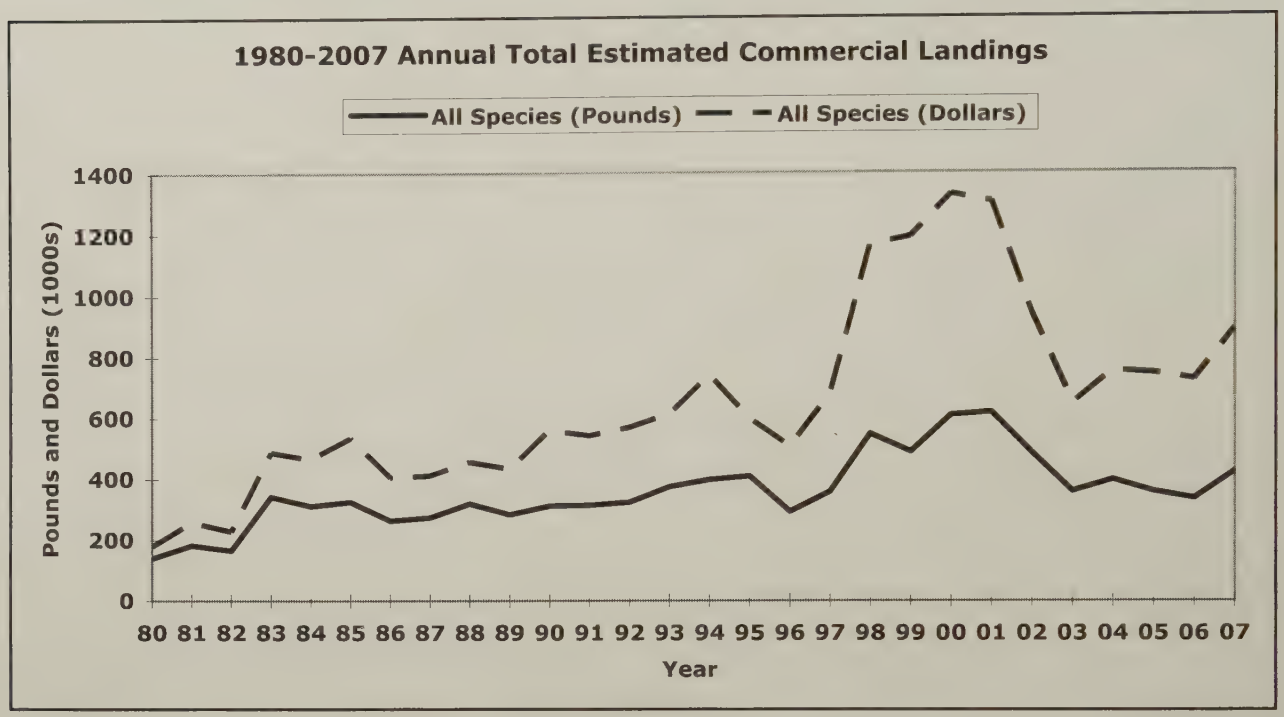


Figure C-3-1

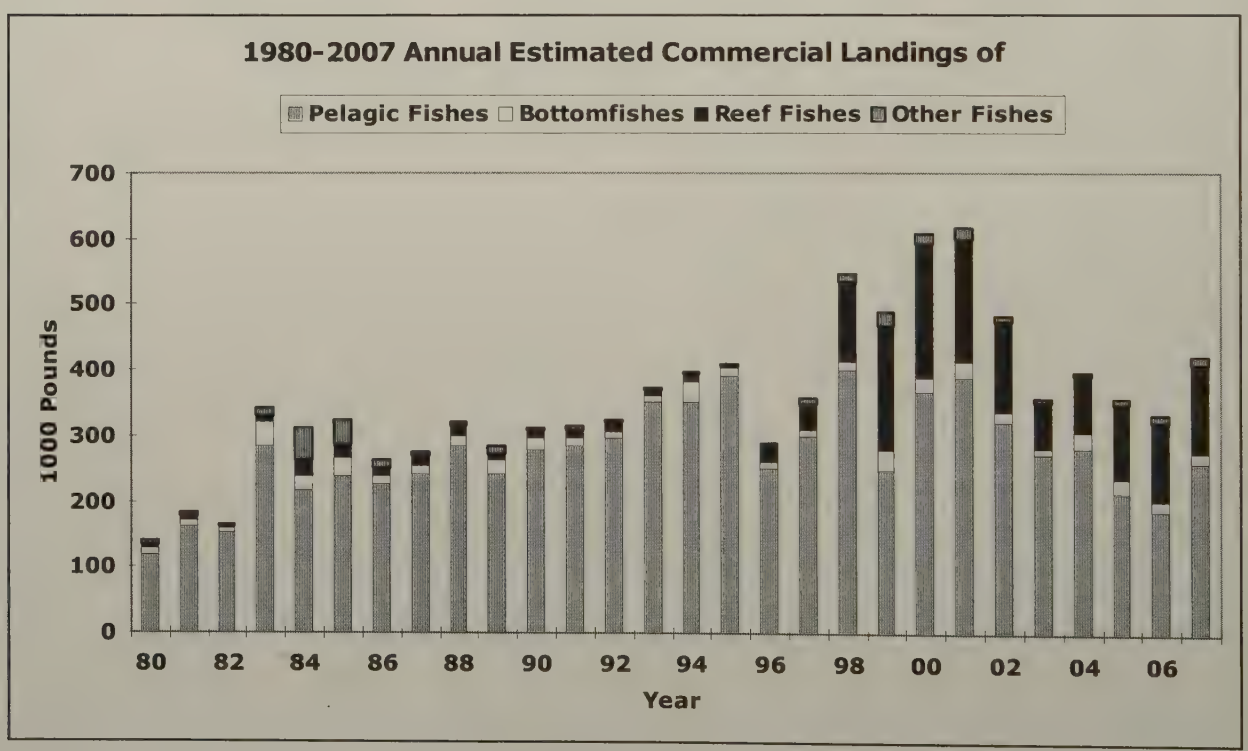


Figure C-3-2

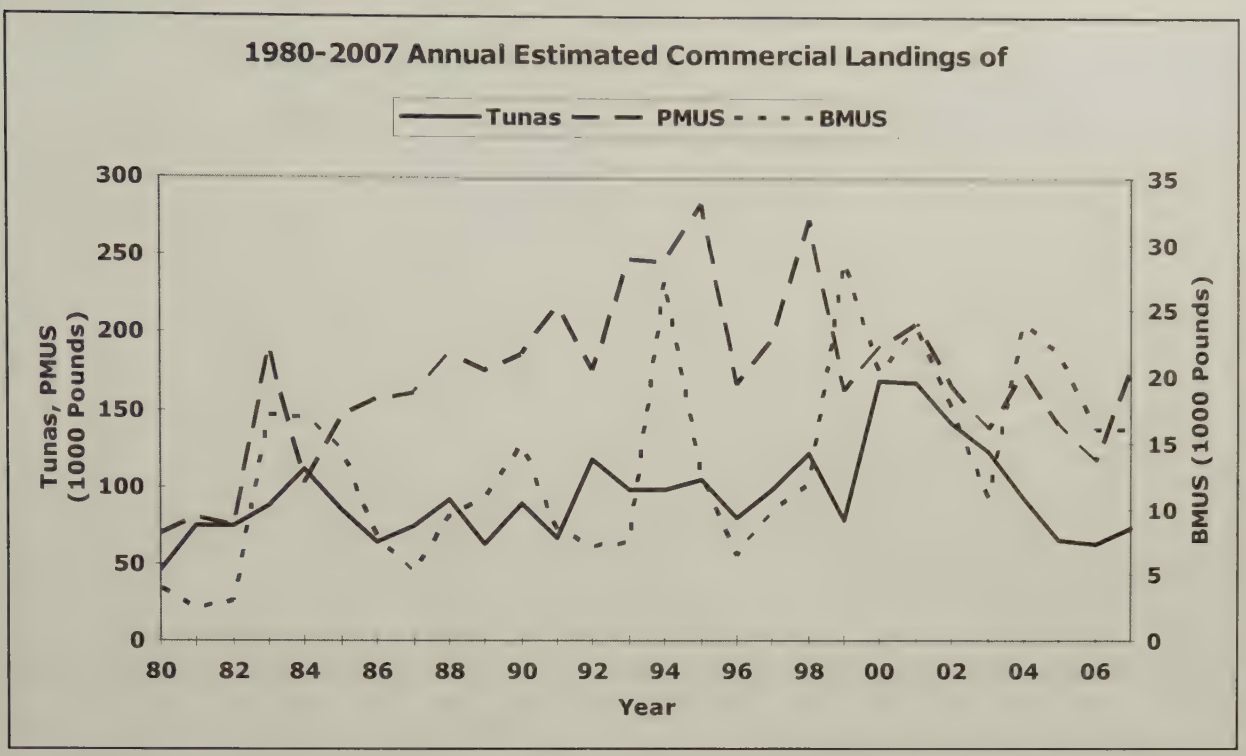


Figure C-3-3

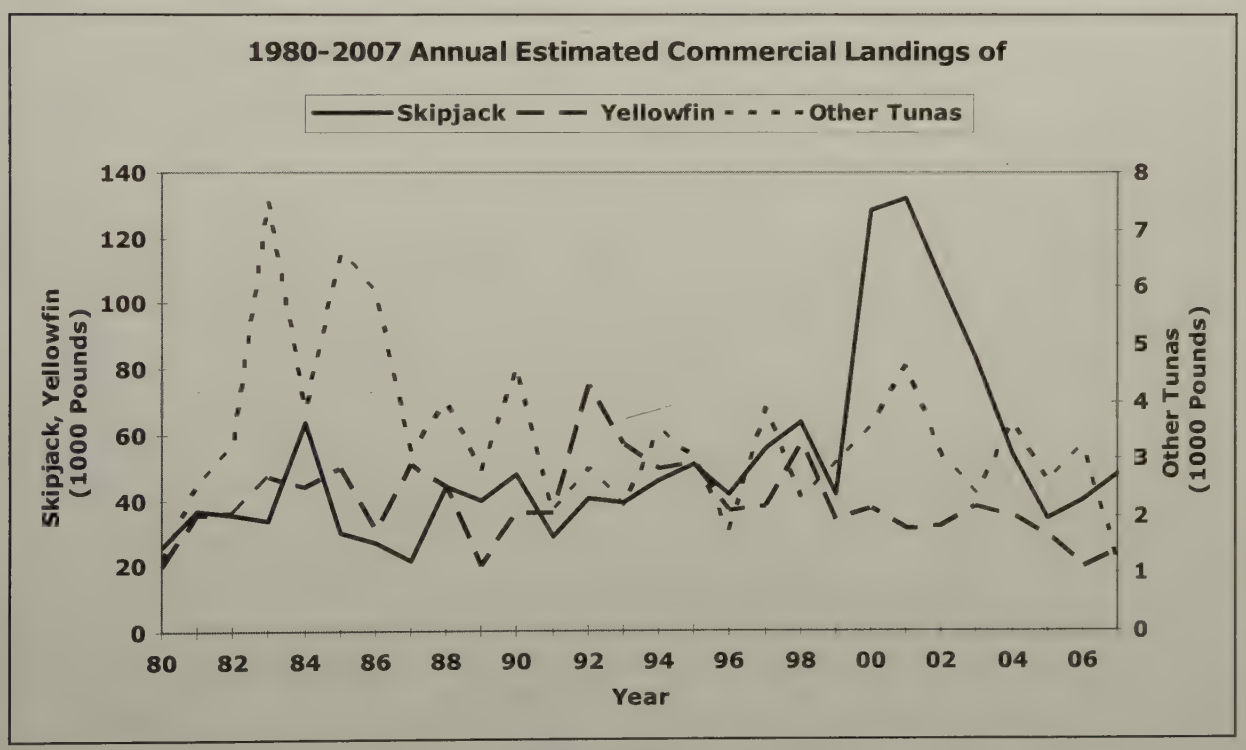


Figure C-3-4

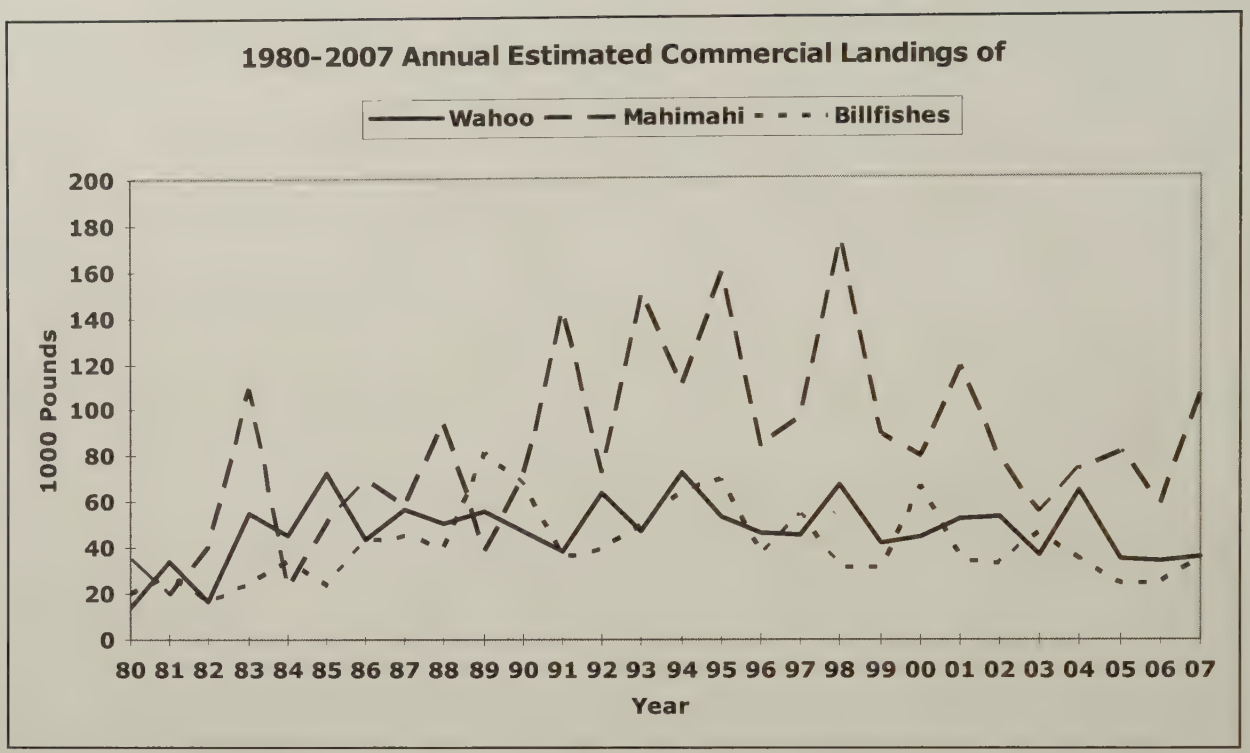


Figure C-3-5

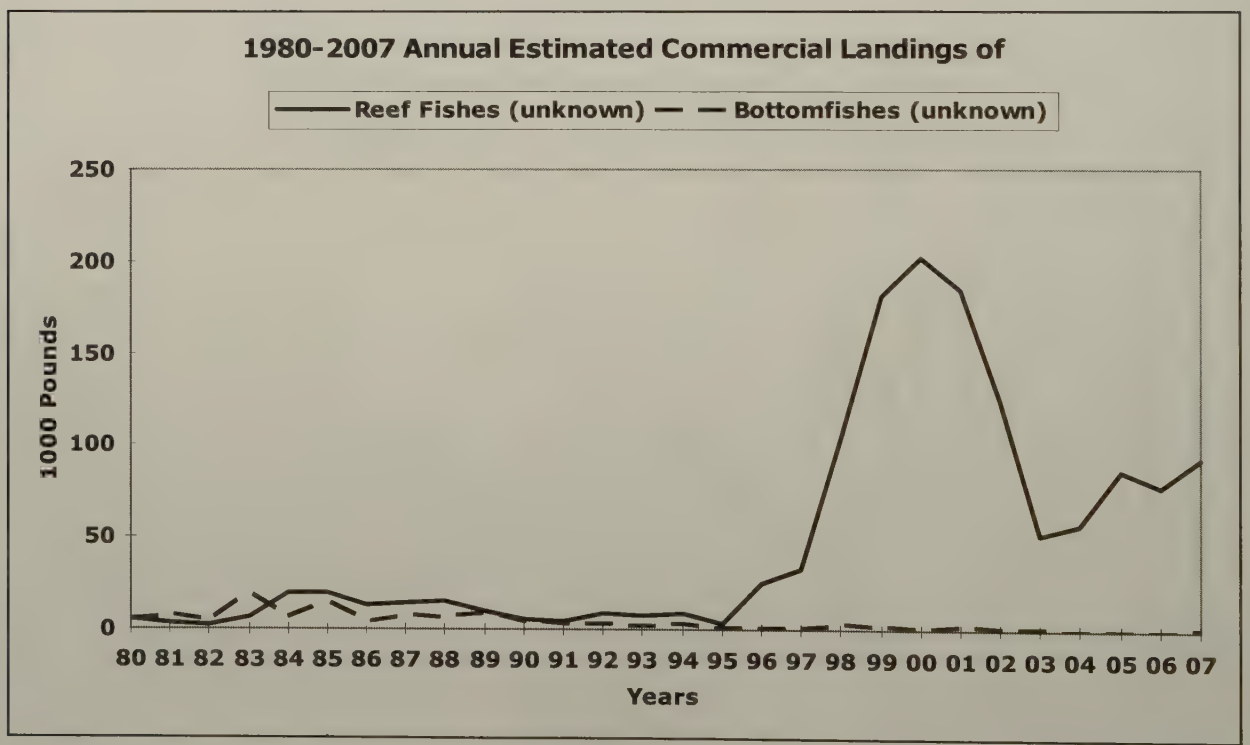


Figure C-3-6

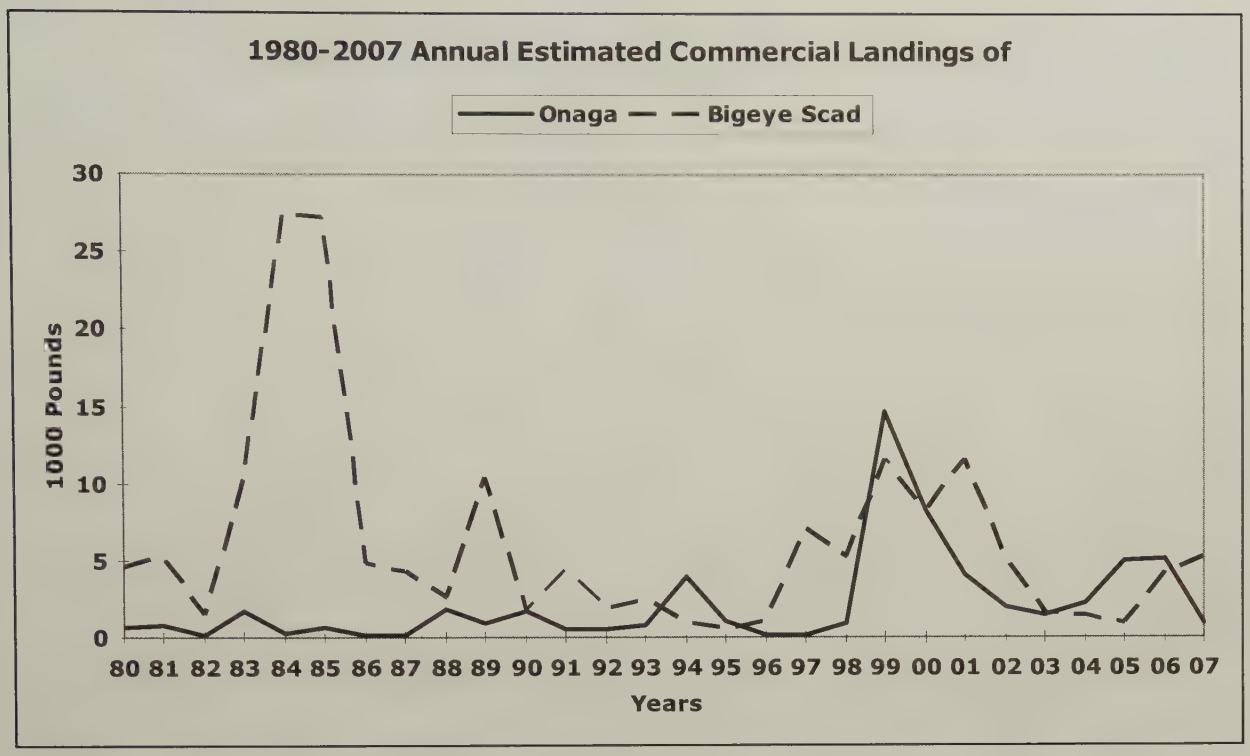

1980-2007 Annual Estimated Commercial Landings of
Onaga
Bigeye Scad
1000 Pounds
30
25
20
15
10
5
0
80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 00 01 02 03 04 05 06 07
Years

Figure C-3-7

The following graphs plot monthly landings of some commercially important species and document monthly fluctuations over the time series:

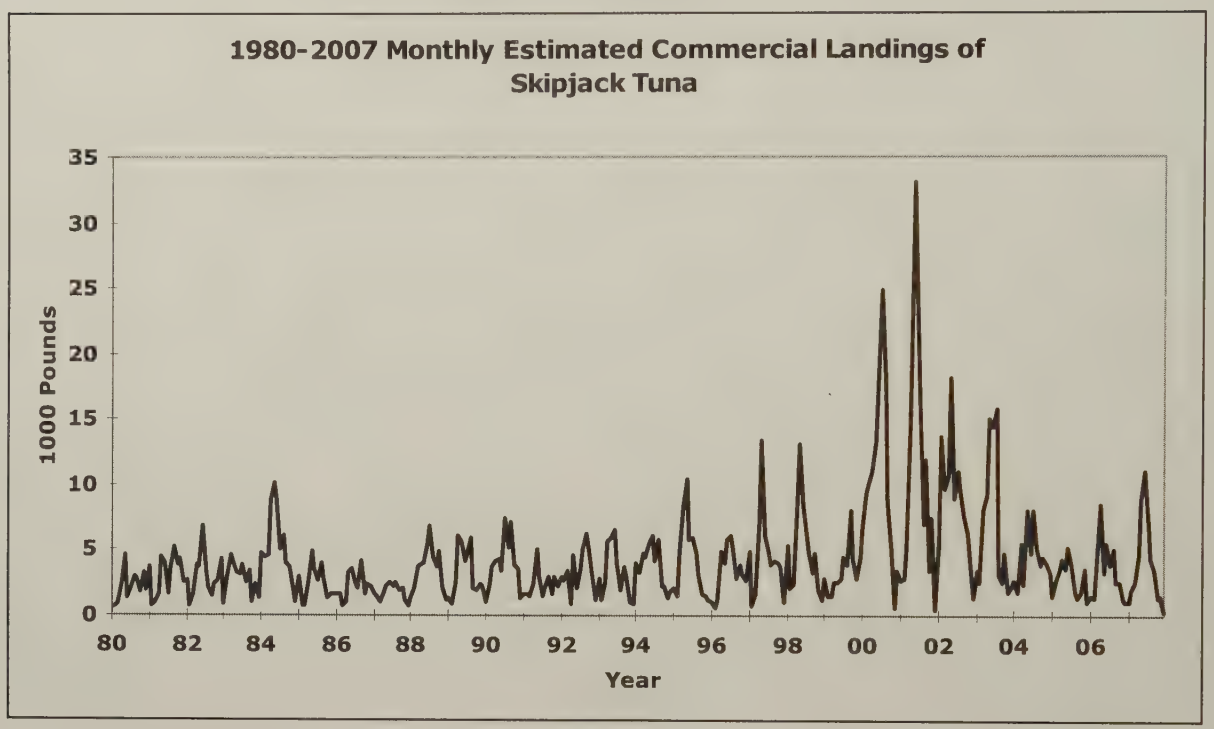


Figure C-4-1

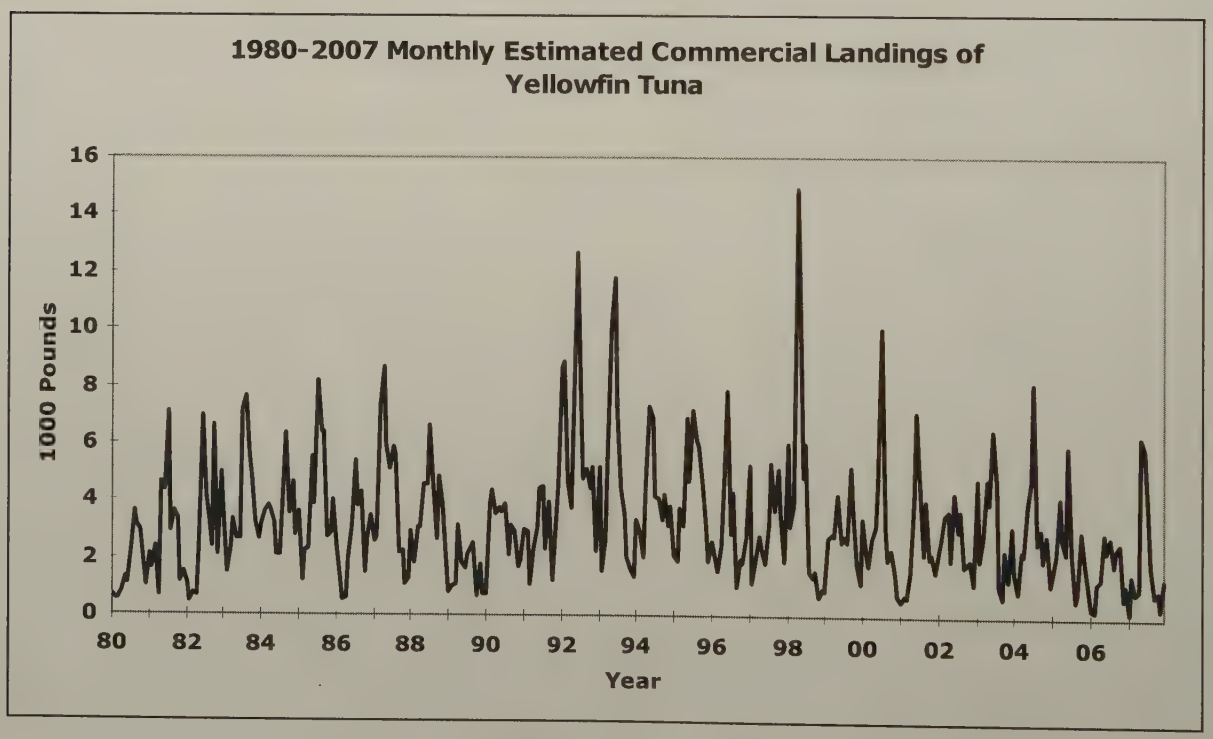


Figure C-4-2

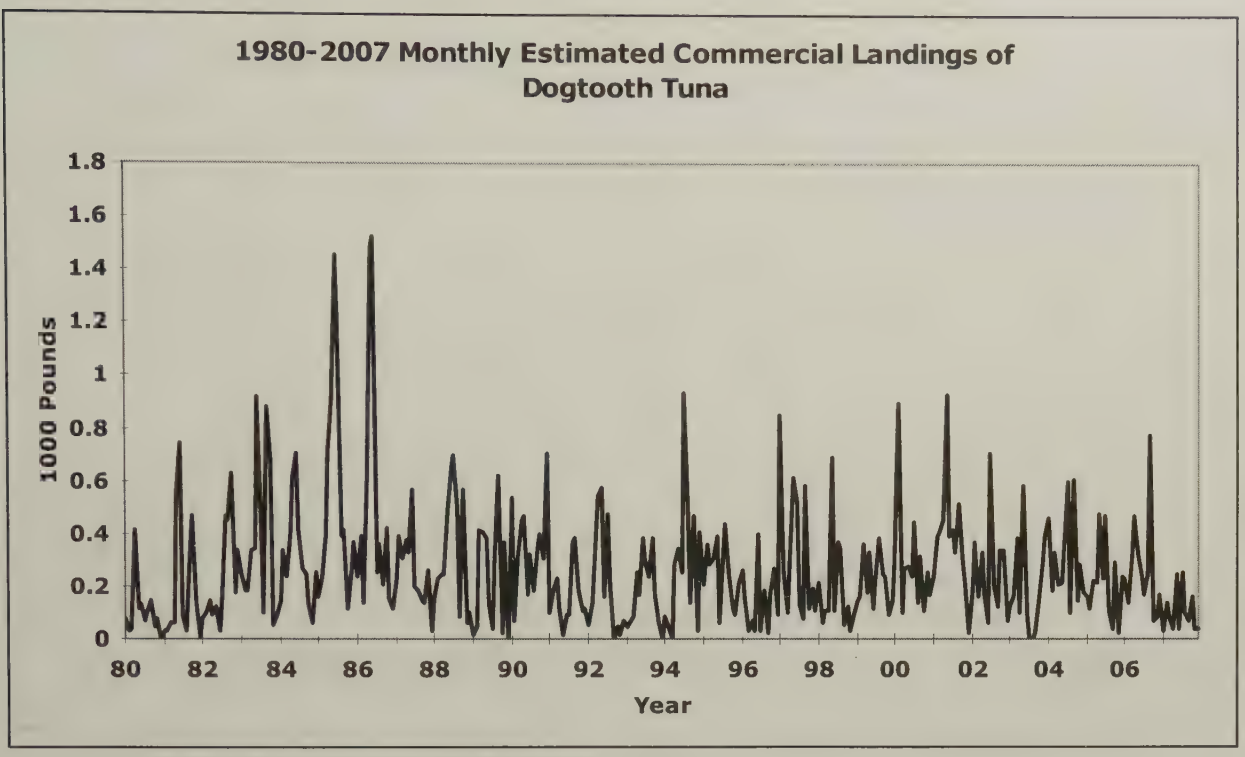


Figure C-4-3

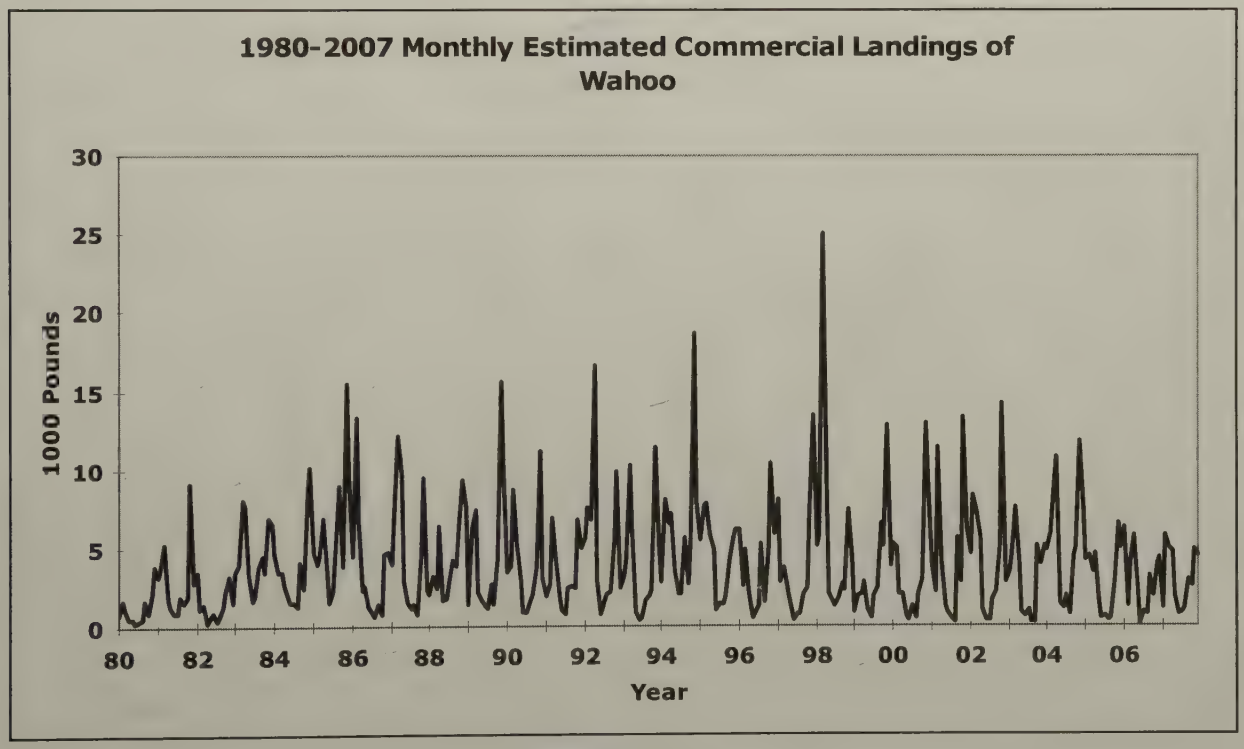


Figure C-4-4

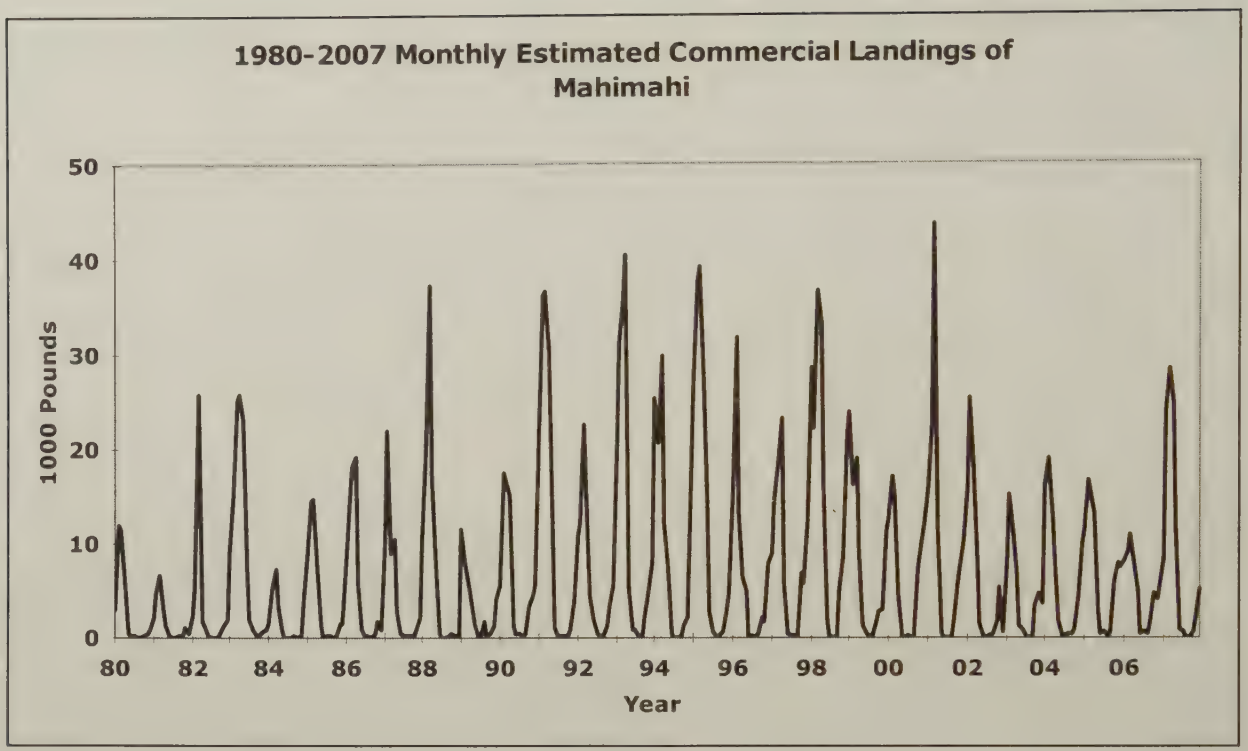
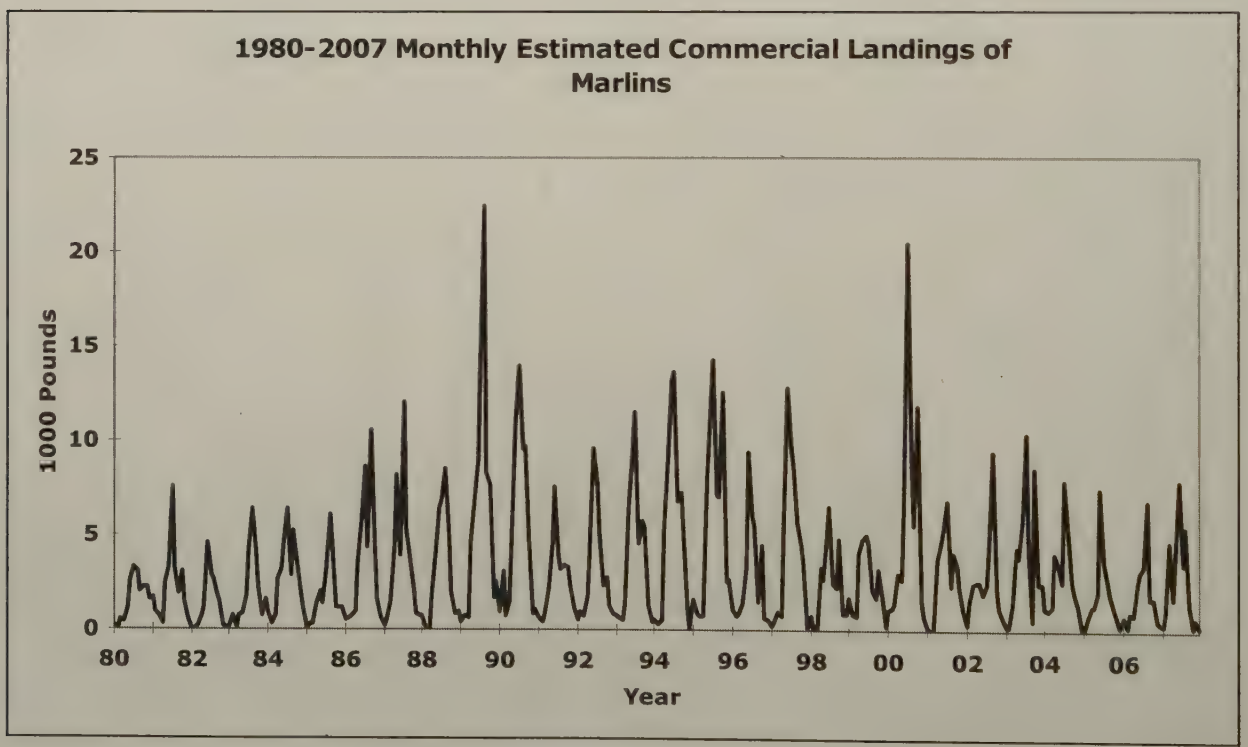


Figure C-4-5



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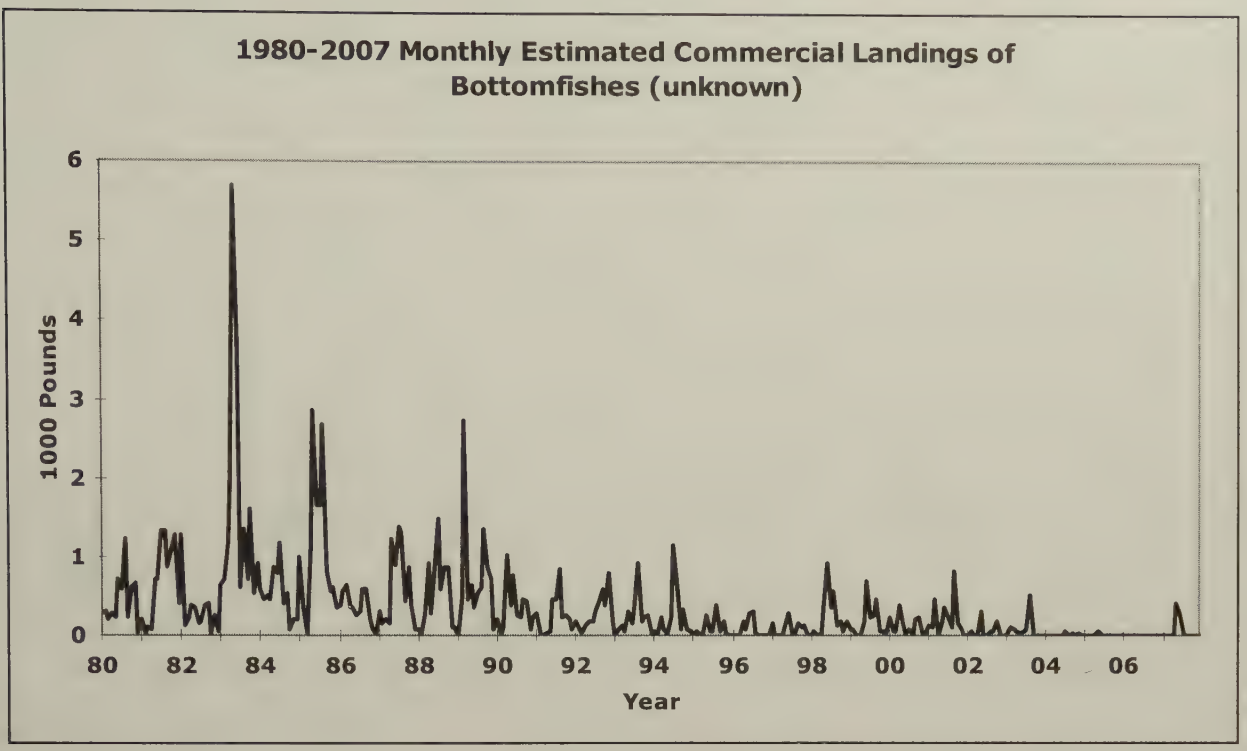

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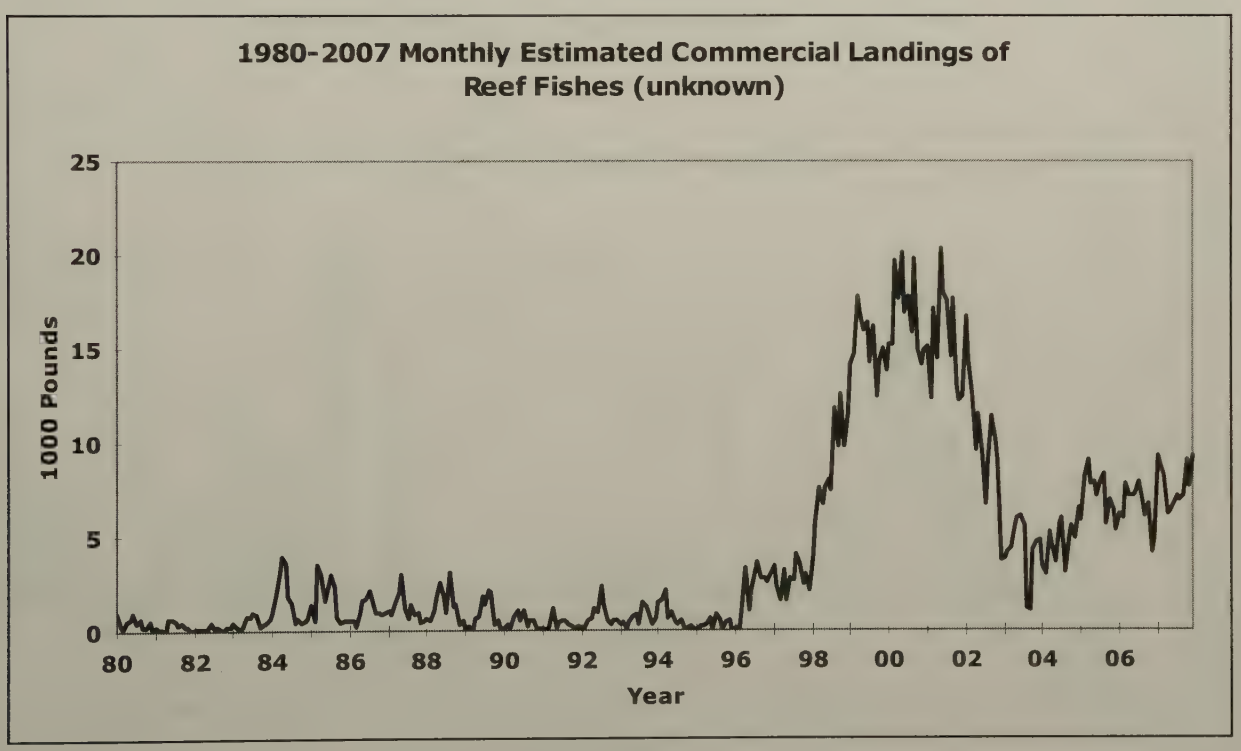

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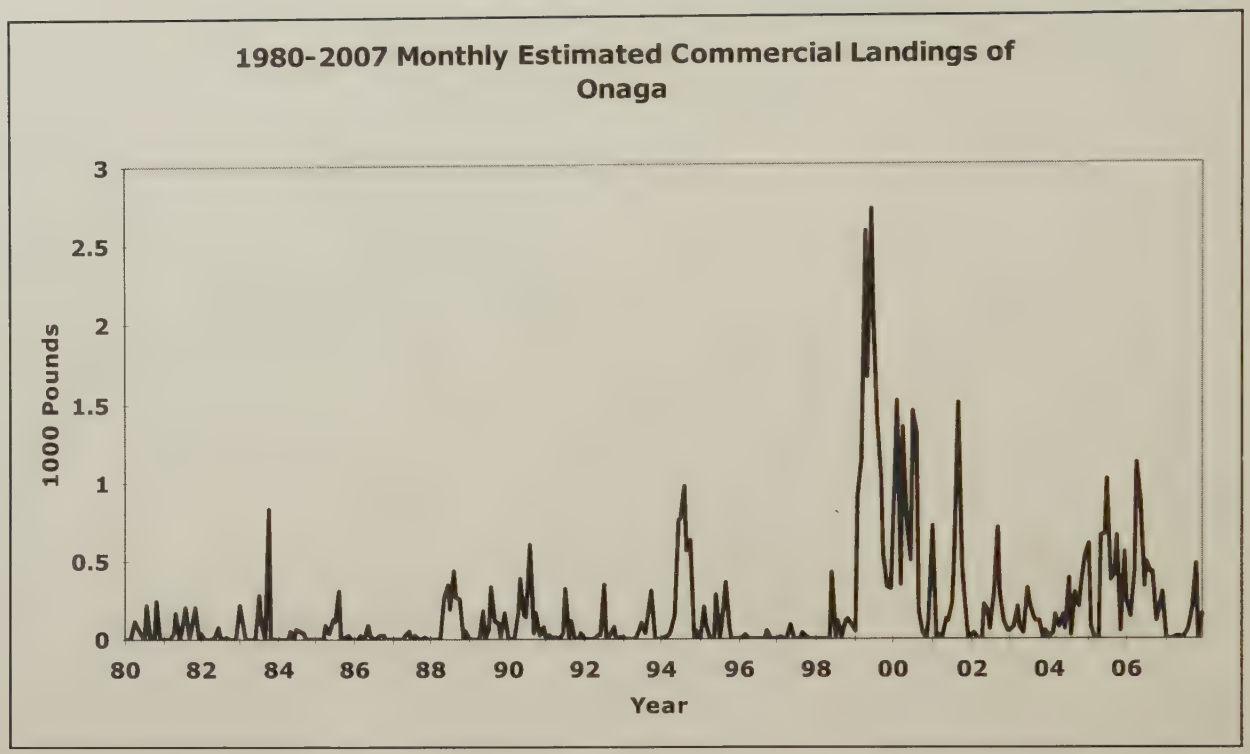

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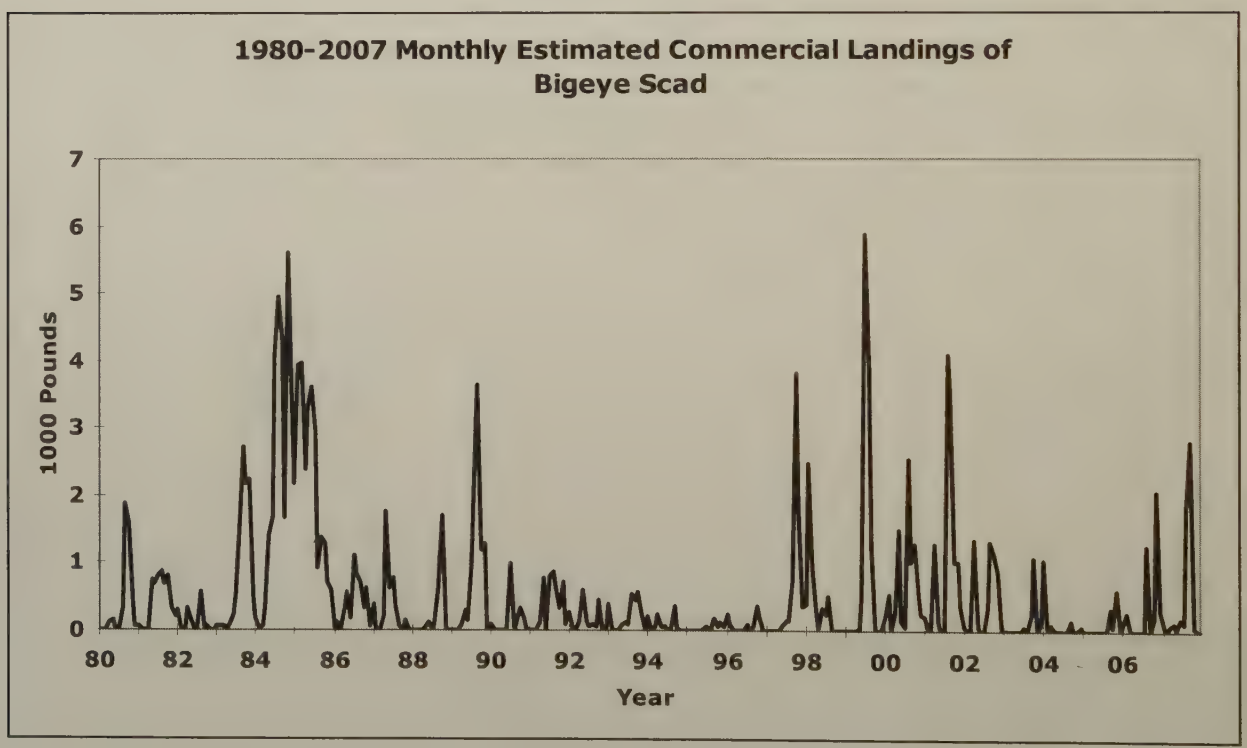

Figure C-4-10

STATE OF HAWAII 2007 FISHERY STATISTICS

Compiled by

Division of Aquatic Resources

and the

Western Pacific Fishery Information Network

June 2009

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STATE OF HAWAII 2007 FISHERY STATISTICS

INTRODUCTION

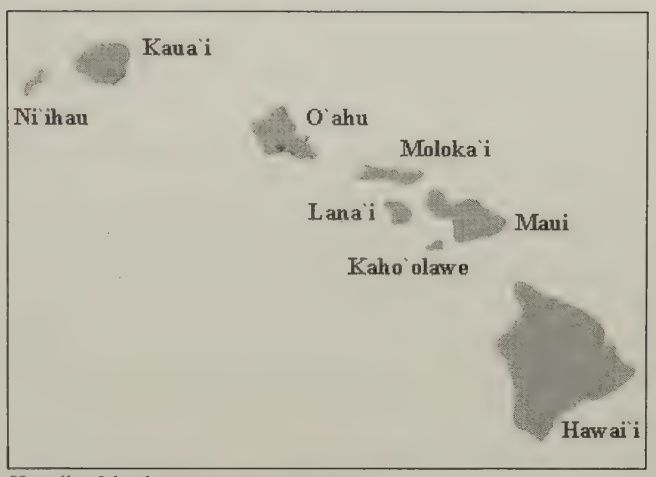
The Hawaiian Archipelago stretches northwestward over 1500 miles.

Location: 19° N latitude, 155° W longitude to about 28° N latitude and 178° W longitude

Islands: Hawaii, Maui, Lanai, Molokai, Oahu, Kauai, Kahoolawe, and Niihau (comprise over 99% of the total land area)

Population: 1,283,000 (*The State of Hawaii Data Book, 2007 Update*)

Commercial Catch Breakdown (lbs): 88% on Oahu, 9% on Hawaii (Big Island), 1% on Maui, and about 2% unknown or on other islands



Hawaiian Islands: copied and modified from:
http://satftp.soest.hawaii.edu/space/hawaii/maps/All_Islands_map.710x509.gif
SOEST Satlab Server

The commercial fisheries of the State of Hawaii are quite diverse; they vary from shore-based algae (limu) harvesting by hand to large vessel-based fisheries such as the offshore pelagic longline fishery that operates on the high seas. There are several major fisheries in Hawaii. Tuna fishing using various methods, deepwater hook-and-line bottomfish fishing for groupers and snappers, various forms of net fishing that target nearshore pelagic and reef fish species, and trolling for such pelagic species as tuna, marlin, wahoo (ono), and mahimahi constitute the top producing fisheries.

Commercial fishing (i.e., selling catches or providing charter fishing services) in Hawaii requires purchasing an annually renewable commercial marine license (CML). In 2007 there were 4117 licensed commercial fishers. The summary catch data for 2007 were created from a combination of Hawaii Division of Aquatic Resources' (HDAR) fishers and dealer reports processed through the Dealer Reporting System (DRS) and Fisherman Reporting System (FRS), as well as additional fishery reports (including federal longline logbooks).

In 2007 the main Hawaiian Islands (MHI) deepwater bottomfish fishery was managed through the implementation of a total allowable catch (TAC) of 178,000 pounds. The implementation of the TAC was a federally mandated management measure to end overfishing of specific deepwater bottomfish species within the MHI. The managed species are known as the "deep 7" and are comprised of onaga, opakapaka, kalekale, hapuupuu, ehu, gindai, and lehi. The fishing season opened on October 1, 2007 and closed in April 2008. For more

information about this fishery, please visit http://www.hawaiibottomfish.info. None of the other MHI commercial fisheries are constrained by TAC management measures.

DATA COLLECTING

Previously, data processed in the Reported Landings tables and charts presented in this section were collected from various Fishermen's Reporting System (FRS) forms. Beginning in October 2002, HDAR implemented several new FRS forms that no longer required sales information reporting as a trade-off for requiring improved catch, effort, and bycatch statistics. The FRS was modified to accommodate these new forms.

The Dealer Reporting System (DRS) was computerized in 2000 and is now a major source of sales data used to create the tables and charts. Data from the NOAA Fisheries Longline Logbook Program are integrated with DRS and FRS data to create the best available summaries presented in this report.

Dealers are required by state law to submit a Commercial Marine Dealer's Report for each month that they are in the business of purchasing marine life. Information collected includes

- Dealer Name
- Dealer Number
- Month and Year
- Date
- First and Last Name from Whom Fish was Bought
- Fisher's CML Number
- Species Bought
- Pounds Bought
- Pieces Bought
- Amount Paid
- Condition

Likewise, all holders of a CML are required by state law to report on their fishing activity. The majority of commercial fishers use the Monthly Fishing Report, a replacement for the old General Fish Catch Report (C-3 form). This form collects data about fishing catch and effort for each day, method, and area fished, and it is processed in the FRS. Information collected includes

- Fisher's Name and CML Number
- Boat's Name and Registration/USCG Number
- Month and Year Fished
- Day Fished
- Charter Trip (y/n)
- Buoy or Area Fished
- Fishing Method
- Hours Fished per Method/Area
- Number of Net Sets
- Number of Fishing Lines, Traps, or Net Length
- Port of Landing
- Species Name
- Number Landed
- Pounds Landed
- Number Lost
- Number Released

Other FRS data collection forms include the Net, Trap and Dive Activity Report, Tuna Handline Trip Report, Deep-sea Handline Trip Report, Aku Boat Report, NWHI Bottomfish Trip Sales Report, and NWHI Bottomfish Trip Daily Log. Commercial collectors of tropical marine fish are required to have an aquarium permit in addition to their commercial marine license, and they are required to report monthly on the C-6 Aquarium Fish Catch Report. Aquarium fish catches, however, are not included in this report's statistics.

This report assumes that the data submitted by fishers are complete and accurate. HDAR continually attempts to improve the quality of data and decrease the time delays in receiving and processing the data.

DATA PROCESSING

When HDAR receives various data reporting forms, staff code and edit the data before keypunching. Forms that fail initial editing are returned for correction and resubmission, or minor problems may be cleared up over the telephone. Delinquency notices are sent to those who fall more than a few months behind in their reporting. Once the data are keypunched, HDAR staff use computer-generated reports to verify and correct errors in the database. When the database is considered to be reasonably complete and error free, it is ready for use in producing various summary catch reports.

DATA REPORTING

More than 150 marine species and species groups are recorded in HDAR's monthly landings reports, many of which are insignificant in the total catch. To help reduce this document's size and improve the usability of the tables, WPacFIN staff combined the less important species, reorganized the order of presentation, created a new species coding system, and translated all records in the database. The new coding system has 100 species and species groups based on flexible ecological and phylogenetic criteria. All of the commercially important pelagic and bottomfish species or unique species groups have individual codes and are reported separately. Marine pond catches are included in the species totals, but make up less than 0.4% of the total landings for each year.

The monthly and annual reports included in this document contain the common name, pounds caught, pounds sold, value rounded to the nearest dollar, and the average price per pound for each species. Pounds caught data come from the longline logbooks, dealer reports, and fisherman catch reports; the pounds sold, value and price/pound data come from the dealer reports. Each monthly report contains a subtotal for the sum of all species for that month.

Several types of graphs are also included. Please note that some of the charts in this volume are new or modified from earlier volumes. To access the most up-to-date data and charts, please visit http://www.pifsc.noaa.gov/wpacfin.

SPECIES CATEGORIES

The species and species groups used in the tables and graphs are defined in this section. Many of the species included in this report have been recategorized over the years. For example, the Magnuson Fishery Conservation and Management Act of 1976 was amended in 1992 to include tunas in the Pelagic Management Unit Species (PMUS) category. However, this report maintains the original species categorizations from previous FSWP reports for comparative purposes. As such, tunas are kept in a separate category.

I. Pelagic Management Unit Species (PMUS)

- Billfishes (unknown)
- Black marlin
- Blue marlin
- Mahimahi
- Sailfish
- Sharks
- Shortnose spearfish
- Striped marlin
- Swordfish
- Wahoo

II. Bottomfish Management Unit Species (BMUS)

- Amberjack
- Black ulua
- Blue lined snapper
- Ehu (red snapper)
- Gindai (flower snapper)
- Golden kalekale
- Hawaiian grouper
- Lehi (silverjaw)
- Onaga (red snapper)
- Opakapaka (pink snapper)
- Pig-lipped ulua
- Porgy
- Uku (gray snapper)
- White ulua
- Yellow-tail kali

III. Billfishes

- Billfishes (unknown)
- Black marlin
- Blue marlin
- Sailfish
- Shortnose spearfish
- Striped marlin
- Swordfish

IV. Tunas

- Albacore tuna
- Bigeye tuna
- Kawakawa
- Skipjack tuna
- Tunas (unknown)
- Yellowfin tuna

V. Other Tunas

- Kawakawa
- Tunas (unknown)

VI. Fisheries Categories

A. *Pelagic Fishes*

- Albacore tuna
- Barracudas
- Bigeye tuna
- Billfishes (unknown)
- Black marlin
- Blue marlin
- Japanese mackerel
- Kawakawa
- Mahimahi
- Moonfish (opah)
- Oilfish
- Pelagic fishes (unknown)
- Pomfret
- Rainbow runner
- Rays
- Sailfish
- Sharks
- Shortnose spearfish
- Skipjack tuna
- Striped marlin
- Swordfish
- Tunas (unknown)
- Wahoo
- Yellowfin tuna

B. *Bottomfishes*

- Amberjack
- Black ulua
- Blue lined snapper
- Blue spot grouper
- Blue trevally
- Dobe ulua
- Ehu (red snapper)
- Gindai (flower snapper)
- Golden kalekale
- Hawaiian grouper
- Jacks
- Lehi (silverjaw)
- Onaga (red snapper)
- Opakapaka (pink snapper)
- Papa ulua
- Pig-lipped ulua
- Porgy
- Sasa ulua
- Snake mackerel
- Snappers
- Uku (gray snapper)
- White ulua
- Yellow-tail kali

C. *Reef Fishes*

- Bigeyes
- Damselfishes
- Filefishes
- Flounders
- Goatfishes
- Gobies
- Hawkfish
- Mountain bass
- Parrotfishes
- Pufferfishes
- Reef fishes (unknown)
- Reef jacks
- Rudderfish
- Scorpionfishes
- Squirrelfishes
- Surgeonfishes/tangs
- Tilapia
- Trumpetfish
- Wrasses

D. *Other Fishes*

- Algae
- Armorhead
- Bigeye scad (akule)
- Bonefish
- Clams
- Crabs
- Eels
- Flying fishes
- Freshwater fishes
- Herrings/sardines
- Invertebrates
- Leatherjacket
- Limpets (saltwater)
- Mackerel scad
- Milkfish
- Miscellaneous
- Mullets
- Needlefishes
- Octopus
- Sea turtles
- Shrimp (freshwater)
- Shrimp (saltwater)
- Silversides
- Slipper lobsters
- Spiny lobsters
- Squid
- Ten pounder
- Threadfin

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Table D-1
Hawaii Annual 2007 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Miscellaneous	2,116	1,638	2,456	1.50
Sharks	443,496	364,314	193,663	0.53
Rays	6	0	0	0.00
Eels	1,974	1,974	2,052	1.04
Armorhead	11	0	0	0.00
Bigeye scad (akule)	736,172	269,070	638,537	2.37
Mackerel scad	358,642	193,945	459,794	2.37
Leatherjacket	284	278	472	1.70
Ten pounder	1,484	1,206	1,242	1.03
Bonefish	10,080	6,641	6,877	1.04
Milkfish	3,620	3,295	4,281	1.30
Flying fishes	1	0	0	0.00
Needlefishes	1,759	219	349	1.59
Threadfin	537	229	1,373	6.01
Mullets	11,345	10,484	37,829	3.61
Pomfret	612,110	592,991	1,460,403	2.46
Oilfish	458,428	458,221	1,019,723	2.23
Jacks	1,550	702	1,820	2.59
Amberjack	11,642	1,027	1,961	1.91
Sasa ulua	573	193	490	2.54
Pig-lipped ulua	13,955	11,087	18,293	1.65
Dobe ulua	56	31	85	2.73
Papa ulua	3,766	1,773	5,510	3.11
White ulua	31,056	12,192	24,721	2.03
Black ulua	1,483	436	702	1.61
Blue trevally	7,548	3,811	9,184	2.41
Hawaiian grouper	29,675	23,048	117,059	5.08
Blue spot grouper	1,061	387	1,079	2.79
Snappers	3,149	2,337	8,201	3.51
Yellow-tail kali	17	8	30	3.62
Blue lined snapper	32,980	29,485	39,897	1.35
Ehu (red snapper)	22,210	16,467	84,002	5.10
Gindai (flower snapper)	4,594	3,256	12,780	3.93
Golden kalekale	7,567	5,557	19,201	3.46
Lehi (silverjaw)	8,478	7,667	28,626	3.73
Onaga (red snapper)	98,024	79,428	528,874	6.66
Opakapaka (pink snapper)	109,997	87,362	493,322	5.65
Uku (gray snapper)	172,081	148,899	473,371	3.18
Porgy	3,325	3,320	11,207	3.38
Reef fishes (unknown)	282	121	126	1.04
Reef jacks	35	6	23	3.83
Squirrelfishes	37,709	33,010	132,366	4.01
Trumpetfish	39	25	24	0.98
Scorpionfishes	2,306	1,472	6,076	4.13
Mountain bass	1,977	1,478	6,165	4.17
Bigeyes	5,163	4,111	13,619	3.31

Table D-1 (continued)
Hawaii Annual 2007 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Goatfishes	35,398	26,478	94,326	3.56
Rudderfish	32,859	31,073	34,004	1.09
Damselfishes	1,546	1,385	3,597	2.60
Hawkfish	601	443	1,110	2.50
Tilapia	3,606	216	540	2.50
Wrasses	4,592	2,552	7,508	2.94
Parrotfishes	44,878	43,464	155,816	3.59
Surgeonfishes/tangs	86,659	85,308	154,879	1.82
Flounders	90	70	90	1.27
Filefishes	726	694	1,232	1.78
Pelagic fishes (unknown)	1,250	86	31	0.36
Moonfish (opah)	1,239,715	1,226,428	2,170,282	1.77
Rainbow runner	1,610	987	2,063	2.09
Mahimahi	1,653,456	1,388,445	3,482,223	2.51
Barracudas	27,783	25,409	28,135	1.11
Wahoo	854,611	715,283	2,086,783	2.92
Japanese mackerel	1	0	0	0.00
Tunas (unknown)	10,452	5,137	20,036	3.90
Skipjack tuna	996,272	729,336	794,203	1.09
Yellowfin tuna	3,507,747	3,246,204	7,240,897	2.23
Albacore tuna	764,725	735,183	1,131,032	1.54
Bigeye tuna	13,618,130	12,872,750	41,961,009	3.26
Kawakawa	8,594	2,548	3,949	1.55
Billfishes (unknown)	5,152	736	373	0.51
Swordfish	3,903,809	3,643,173	7,726,051	2.12
Blue marlin	852,145	747,896	913,374	1.22
Black marlin	7,683	4,770	6,157	1.29
Striped marlin	667,378	623,175	1,108,765	1.78
Shortnose spearfish	328,437	316,880	346,736	1.09
Sailfish	27,784	25,902	24,767	0.96
Spiny lobsters	8,354	7,844	92,908	11.8
Slipper lobsters	121	4	28	7.93
Crabs	43,974	12,634	53,489	4.23
Shrimp (saltwater)	3,555	417	2,333	5.60
Octopus	18,308	17,010	61,495	3.62
Squid	2,463	2,211	5,176	2.34
Limpets (saltwater)	8,760	6,794	58,744	8.65
Invertebrates	4,869	989	25,337	25.6
Algae	6,654	4,338	35,623	8.21
TOTAL	32,039,102	28,937,451	75,702,967	2.62

Table D-2
Hawaii January 2007 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Miscellaneous	321	321	329	1.03
Sharks	37,242	31,316	18,683	0.60
Eels	54	54	58	1.06
Bigeye scad (akule)	81,530	31,954	71,785	2.25
Mackerel scad	32,957	20,752	47,773	2.30
Leatherjacket	3	3	4	1.50
Ten pounder	12	12	12	1.00
Bonefish	184	184	184	1.00
Milkfish	604	604	754	1.25
Needlefishes	46	46	65	1.43
Threadfin	30	1	7	7.00
Mullets	7	6	15	2.50
Pomfret	42,702	38,234	104,481	2.73
Oilfish	56,167	56,167	101,185	1.80
Jacks	190	102	355	3.48
Amberjack	874	0	0	0.00
Sasa ulua	16	0	0	0.00
Pig-lipped ulua	90	90	209	2.32
Papa ulua	256	141	468	3.32
White ulua	2,233	1,033	2,063	2.00
Black ulua	31	31	51	1.65
Blue trevally	414	232	647	2.79
Hawaiian grouper	2,120	1,856	8,425	4.54
Blue spot grouper	90	0	0	0.00
Snappers	46	28	82	2.93
Yellow-tail kali	5	0	0	0.00
Blue lined snapper	1,784	1,226	1,558	1.27
Ehu (red snapper)	2,072	1,508	8,342	5.53
Gindai (flower snapper)	291	214	894	4.18
Golden kalekale	892	717	2,571	3.59
Lehi (silverjaw)	1,020	1,020	4,453	4.37
Onaga (red snapper)	11,877	9,640	68,994	7.16
Opakapaka (pink snapper)	19,865	14,318	83,165	5.81
Uku (gray snapper)	6,382	6,227	22,543	3.62
Porgy	17	17	69	3.99
Reef fishes (unknown)	24	24	24	1.00
Squirrelfishes	958	958	3,663	3.82
Trumpetfish	7	7	7	1.00
Scorpionfishes	194	155	696	4.48
Mountain bass	38	13	37	2.89
Bigeyes	378	350	947	2.70
Goatfishes	2,816	1,860	5,401	2.90
Rudderfish	1,442	1,442	1,794	1.24
Damselfishes	157	108	172	1.60
Hawkfish	20	16	44	2.72
Tilapia	660	0	0	0.00

Table D-2 (continued)
Hawaii January 2007 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Wrasses	349	92	228	2.48
Parrotfishes	1,018	829	2,697	3.25
Surgeonfishes/tangs	6,334	4,984	8,030	1.61
Flounders	7	7	7	1.00
Filefishes	44	44	78	1.75
Pelagic fishes (unknown)	240	64	29	0.45
Moonfish (opah)	66,521	64,031	170,518	2.66
Rainbow runner	139	139	415	2.98
Mahimahi	37,414	30,225	104,105	3.44
Barracudas	780	247	259	1.05
Wahoo	28,981	28,231	103,366	3.66
Tunas (unknown)	532	11	10	0.96
Skipjack tuna	50,212	37,047	53,014	1.43
Yellowfin tuna	223,658	203,897	448,371	2.20
Albacore tuna	68,184	62,490	115,498	1.85
Bigeye tuna	1,091,438	1,005,335	2,940,050	2.92
Kawakawa	233	0	0	0.00
Billfishes (unknown)	20	0	0	0.00
Swordfish	245,176	198,211	542,460	2.74
Blue marlin	39,013	27,200	45,691	1.68
Black marlin	189	189	317	1.68
Striped marlin	97,524	97,524	178,617	1.83
Shortnose spearfish	23,903	20,733	32,811	1.58
Sailfish	341	143	203	1.42
Spiny lobsters	875	875	9,438	10.8
Slipper lobsters	13	4	28	7.93
Crabs	4,940	945	3,814	4.04
Octopus	2,131	1,898	6,992	3.68
Squid	22	22	55	2.50
Limpets (saltwater)	676	676	10,138	15.0
Algae	161	161	1,642	10.2
TOTAL	2,300,182	2,009,236	5,341,887	2.66

Table D-3
Hawaii February 2007 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Miscellaneous	62	62	156	2.53
Sharks	20,277	17,603	14,864	0.84
Eels	53	53	84	1.58
Bigeye scad (akule)	36,849	21,759	49,718	2.28
Mackerel scad	23,758	13,382	30,975	2.31
Leatherjacket	56	56	81	1.44
Ten pounder	152	151	151	1.00
Bonefish	314	314	397	1.26
Milkfish	113	113	162	1.43
Needlefishes	18	15	23	1.47
Threadfin	36	6	38	6.55
Mullets	8	8	11	1.40
Pomfret	34,986	33,464	98,525	2.94
Oilfish	41,012	41,012	83,635	2.04
Jacks	140	72	127	1.77
Amberjack	778	7	6	0.86
Sasa ulua	26	4	10	2.50
Pig-lipped ulua	219	207	644	3.12
Dobe ulua	21	21	53	2.50
Papa ulua	271	271	798	2.95
White ulua	1,276	204	511	2.50
Black ulua	17	17	29	1.70
Blue trevally	401	251	609	2.43
Hawaiian grouper	1,150	815	5,199	6.38
Blue spot grouper	56	56	198	3.57
Snappers	57	57	171	3.03
Blue lined snapper	1,085	816	1,038	1.27
Ehu (red snapper)	1,804	1,279	7,775	6.08
Gindai (flower snapper)	281	176	783	4.44
Golden kalekale	579	401	1,698	4.24
Lehi (silverjaw)	718	718	2,792	3.89
Onaga (red snapper)	11,367	5,466	42,130	7.71
Opakapaka (pink snapper)	9,389	8,860	54,480	6.15
Uku (gray snapper)	15,810	14,482	50,681	3.50
Porgy	27	27	84	3.09
Reef fishes (unknown)	20	20	20	1.00
Reef jacks	1	1	3	3.00
Squirrelfishes	1,280	1,280	5,174	4.04
Scorpionfishes	165	105	519	4.95
Mountain bass	130	83	404	4.87
Bigeyes	368	247	775	3.14
Goatfishes	1,601	1,543	4,950	3.21
Rudderfish	4,268	4,246	4,300	1.01
Damselfishes	23	8	11	1.42
Hawkfish	7	7	18	2.50
Tilapia	400	0	0	0.00

Table D-3 (continued)
Hawaii February 2007 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Wrasses	391	144	342	2.37
Parrotfishes	1,263	1,260	4,038	3.21
Surgeonfishes/tangs	3,736	3,736	7,540	2.02
Flounders	5	5	10	2.00
Filefishes	55	55	95	1.71
Pelagic fishes (unknown)	913	22	2	0.10
Moonfish (opah)	68,745	67,052	160,724	2.40
Rainbow runner	99	40	84	2.13
Mahimahi	79,042	63,697	166,190	2.61
Barracudas	445	301	482	1.60
Wahoo	30,312	24,573	93,009	3.79
Tunas (unknown)	627	51	58	1.14
Skipjack tuna	108,504	94,173	95,253	1.01
Yellowfin tuna	167,606	158,288	374,604	2.37
Albacore tuna	82,281	78,477	129,365	1.65
Bigeye tuna	942,785	904,374	2,996,475	3.31
Kawakawa	155	24	33	1.35
Billfishes (unknown)	360	0	0	0.00
Swordfish	568,255	568,255	1,211,276	2.13
Blue marlin	37,549	31,705	52,184	1.65
Black marlin	486	486	1,094	2.25
Striped marlin	58,382	58,382	118,370	2.03
Shortnose spearfish	25,390	23,036	34,411	1.49
Sailfish	476	476	930	1.96
Spiny lobsters	1,214	1,181	13,615	11.5
Slipper lobsters	21	0	0	0.00
Crabs	3,034	616	2,530	4.11
Octopus	1,874	1,460	5,255	3.60
Limpets (saltwater)	374	374	3,027	8.09
Invertebrates	320	0	0	0.00
Algae	466	336	3,531	10.5
TOTAL	2,396,594	2,252,319	5,939,336	2.64

Table D-4
Hawaii March 2007 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Miscellaneous	30	30	360	12.0
Sharks	34,793	33,747	29,038	0.86
Eels	199	199	201	1.01
Bigeye scad (akule)	68,228	23,938	58,122	2.43
Mackerel scad	26,008	11,636	29,945	2.57
Leatherjacket	19	19	28	1.50
Ten pounder	267	259	259	1.00
Bonefish	1,259	1,228	1,235	1.01
Milkfish	41	41	57	1.41
Needlefishes	3	0	0	0.00
Threadfin	70	8	48	6.23
Mullets	63	13	38	2.94
Pomfret	57,003	56,808	136,266	2.40
Oilfish	46,258	46,258	119,102	2.57
Jacks	157	25	25	1.00
Amberjack	1,200	45	40	0.88
Sasa ulua	92	8	24	2.98
Pig-lipped ulua	1,848	1,805	4,808	2.66
Papa ulua	630	320	1,034	3.23
White ulua	3,107	1,482	2,785	1.88
Black ulua	175	22	47	2.19
Blue trevally	398	221	609	2.75
Hawaiian grouper	1,988	1,708	9,347	5.47
Blue spot grouper	36	19	43	2.30
Snappers	242	242	929	3.84
Yellow-tail kali	2	2	9	3.67
Blue lined snapper	1,625	752	1,115	1.48
Ehu (red snapper)	3,000	2,766	15,096	5.46
Gindai (flower snapper)	475	319	1,344	4.22
Golden kalekale	749	636	2,585	4.06
Lehi (silverjaw)	1,279	1,240	4,234	3.41
Onaga (red snapper)	13,711	13,711	93,823	6.84
Opakapaka (pink snapper)	14,365	12,864	76,197	5.92
Uku (gray snapper)	10,245	9,903	35,017	3.54
Porgy	213	213	551	2.59
Reef fishes (unknown)	112	57	56	0.98
Squirrelfishes	2,276	1,953	7,763	3.98
Trumpetfish	2	1	1	1.30
Scorpionfishes	362	211	856	4.07
Mountain bass	147	92	373	4.05
Bigeyes	359	300	1,027	3.42
Goatfishes	3,253	2,648	8,625	3.26
Rudderfish	780	397	573	1.44
Damselfishes	155	145	417	2.87
Hawkfish	192	46	105	2.30
Tilapia	350	0	0	0.00

Table D-4 (continued)
Hawaii March 2007 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Wrasses	624	224	540	2.41
Parrotfishes	4,812	4,595	16,303	3.55
Surgeonfishes/tangs	6,733	6,733	14,112	2.10
Flounders	24	9	13	1.52
Filefishes	116	116	200	1.74
Moonfish (opah)	101,576	101,576	194,839	1.92
Rainbow runner	117	117	249	2.13
Mahimahi	171,120	147,562	386,007	2.62
Barracudas	1,282	934	1,484	1.59
Wahoo	44,264	39,664	147,696	3.72
Tunas (unknown)	269	4	12	3.00
Skipjack tuna	75,853	63,292	82,252	1.30
Yellowfin tuna	175,124	154,664	444,018	2.87
Albacore tuna	67,247	64,644	116,485	1.80
Bigeye tuna	894,668	894,668	3,392,705	3.79
Kawakawa	417	143	254	1.78
Billfishes (unknown)	46	0	0	0.00
Swordfish	748,632	714,271	1,768,730	2.48
Blue marlin	61,008	52,590	76,382	1.45
Black marlin	1,221	1,127	748	0.66
Striped marlin	56,525	56,525	122,459	2.17
Shortnose spearfish	25,339	25,339	40,730	1.61
Sailfish	1,307	336	531	1.58
Spiny lobsters	1,722	1,554	18,162	11.7
Slipper lobsters	20	0	0	0.00
Crabs	2,074	800	3,301	4.13
Octopus	1,632	1,230	4,548	3.70
Squid	23	0	0	0.00
Limpets (saltwater)	514	514	4,070	7.92
Invertebrates	833	8	24	3.25
Algae	515	515	5,901	11.5
TOTAL	2,743,416	2,562,085	7,486,909	2.92

Table D-5
Hawaii April 2007 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Miscellaneous	105	105	16	0.16
Sharks	36,314	31,150	18,872	0.61
Eels	93	93	94	1.02
Bigeye scad (akule)	65,675	26,806	65,858	2.46
Mackerel scad	24,388	12,997	33,438	2.57
Leatherjacket	17	17	23	1.40
Ten pounder	486	486	486	1.00
Bonefish	4,314	1,138	1,138	1.00
Milkfish	1,124	945	1,173	1.24
Needlefishes	55	0	0	0.00
Threadfin	30	3	18	7.00
Mullets	2,500	2,416	8,549	3.54
Pomfret	44,350	44,350	112,041	2.53
Oilfish	39,195	39,195	90,854	2.32
Jacks	94	43	72	1.70
Amberjack	894	0	0	0.00
Sasa ulua	154	29	73	2.50
Pig-lipped ulua	1,700	99	290	2.92
Dobe ulua	2	2	3	2.00
Papa ulua	341	51	157	3.11
White ulua	3,393	766	1,444	1.89
Black ulua	68	0	0	0.00
Blue trevally	295	151	380	2.52
Hawaiian grouper	4,064	940	4,578	4.87
Blue spot grouper	27	9	20	2.25
Snappers	99	99	405	4.08
Yellow-tail kali	1	1	5	4.00
Blue lined snapper	1,984	1,865	2,511	1.35
Ehu (red snapper)	3,072	2,072	11,390	5.50
Gindai (flower snapper)	633	364	1,542	4.24
Golden kalekale	1,458	864	2,846	3.30
Lehi (silverjaw)	692	692	2,365	3.42
Onaga (red snapper)	10,664	5,871	39,102	6.66
Opakapaka (pink snapper)	12,299	8,975	47,604	5.30
Uku (gray snapper)	17,970	8,446	26,451	3.13
Porgy	198	194	673	3.48
Reef fishes (unknown)	20	20	22	1.13
Squirrelfishes	2,249	2,189	7,247	3.31
Trumpetfish	2	2	2	1.00
Scorpionfishes	242	174	857	4.93
Mountain bass	56	32	128	3.98
Bigeyes	330	330	1,263	3.82
Goatfishes	3,135	1,851	5,950	3.21
Rudderfish	1,372	1,372	1,550	1.13
Damselfishes	115	86	250	2.89
Hawkfish	26	26	79	3.08

Table D-5 (continued)
Hawaii April 2007 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Wrasses	446	212	751	3.55
Parrotfishes	2,955	2,555	8,870	3.47
Surgeonfishes/tangs	5,268	5,268	9,269	1.76
Filefishes	129	129	227	1.77
Moonfish (opah)	43,365	43,365	113,486	2.62
Rainbow runner	84	84	127	1.51
Mahimahi	165,376	145,011	417,177	2.88
Barracudas	2,388	2,255	3,750	1.66
Wahoo	83,360	71,941	203,589	2.83
Tunas (unknown)	1,383	0	0	0.00
Skipjack tuna	118,559	93,145	104,288	1.12
Yellowfin tuna	175,910	155,461	368,501	2.37
Albacore tuna	17,350	15,652	40,884	2.61
Bigeye tuna	881,696	773,933	2,774,913	3.59
Kawakawa	982	455	601	1.32
Billfishes (unknown)	180	0	0	0.00
Swordfish	985,677	823,033	1,315,442	1.60
Blue marlin	69,204	55,905	81,207	1.45
Black marlin	1,044	865	1,310	1.51
Striped marlin	67,325	60,617	121,248	2.00
Shortnose spearfish	20,356	19,803	33,900	1.71
Sailfish	914	914	1,542	1.69
Spiny lobsters	1,185	1,165	13,074	11.2
Slipper lobsters	15	0	0	0.00
Crabs	2,446	1,000	4,520	4.52
Shrimp (saltwater)	367	202	1,842	9.12
Octopus	790	790	2,817	3.57
Squid	115	115	313	2.71
Limpets (saltwater)	957	480	4,019	8.37
Invertebrates	160	0	0	0.00
Algae	987	987	7,410	7.51
TOTAL	2,937,264	2,472,651	6,126,897	2.48

Table D-6
Hawaii May 2007 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Miscellaneous	91	91	66	0.72
Sharks	36,597	24,780	16,348	0.66
Eels	115	115	123	1.07
Armorhead	5	0	0	0.00
Bigeye scad (akule)	107,118	40,380	97,756	2.42
Mackerel scad	22,127	12,047	28,978	2.41
Leatherjacket	11	11	15	1.37
Ten pounder	81	81	81	1.00
Bonefish	53	51	51	1.00
Milkfish	687	604	785	1.30
Flying fishes	1	0	0	0.00
Needlefishes	206	10	20	2.00
Threadfin	55	52	257	4.94
Mullets	193	118	441	3.72
Pomfret	52,219	50,759	120,746	2.38
Oilfish	31,334	31,334	77,367	2.47
Jacks	157	0	0	0.00
Amberjack	465	72	117	1.64
Sasa ulua	32	24	60	2.51
Pig-lipped ulua	2,634	2,634	4,683	1.78
Papa ulua	505	152	482	3.17
White ulua	5,525	1,468	2,554	1.74
Black ulua	420	175	272	1.55
Blue trevally	1,014	267	649	2.43
Hawaiian grouper	3,636	3,636	17,260	4.75
Blue spot grouper	50	0	0	0.00
Snappers	1,010	288	984	3.42
Blue lined snapper	4,972	4,747	6,257	1.32
Ehu (red snapper)	1,713	1,713	6,373	3.72
Gindai (flower snapper)	249	249	776	3.12
Golden kalekale	550	550	1,341	2.44
Lehi (silverjaw)	335	335	1,305	3.90
Onaga (red snapper)	4,153	4,153	24,475	5.89
Opakapaka (pink snapper)	3,270	3,270	15,844	4.85
Uku (gray snapper)	26,416	26,416	67,963	2.57
Porgy	566	566	1,957	3.46
Reef fishes (unknown)	1	1	4	6.13
Squirrelfishes	3,324	2,991	11,556	3.86
Scorpionfishes	169	116	362	3.13
Mountain bass	116	112	365	3.25
Bigeyes	925	675	1,795	2.66
Goatfishes	3,643	2,762	8,257	2.99
Rudderfish	1,643	376	564	1.50
Damselfishes	212	170	429	2.53
Hawkfish	64	64	165	2.60
Wrasses	438	294	716	2.44

Table D-6 (continued)
Hawaii May 2007 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Parrotfishes	7,870	7,870	28,900	3.67
Surgeonfishes/tangs	8,349	8,349	15,501	1.86
Filefishes	178	178	326	1.84
Moonfish (opah)	61,430	58,360	131,439	2.25
Rainbow runner	132	132	325	2.45
Mahimahi	93,660	81,841	282,239	3.45
Barracudas	6,462	6,462	5,022	0.78
Wahoo	152,085	124,639	264,426	2.12
Tunas (unknown)	1,314	1,011	4,181	4.14
Skipjack tuna	98,020	84,671	85,979	1.02
Yellowfin tuna	261,029	230,717	433,016	1.88
Albacore tuna	50,607	44,021	71,868	1.63
Bigeye tuna	1,257,289	1,150,408	2,965,916	2.58
Kawakawa	958	840	970	1.15
Billfishes (unknown)	340	0	0	0.00
Swordfish	617,322	617,322	993,052	1.61
Blue marlin	113,704	103,630	74,667	0.72
Black marlin	693	693	865	1.25
Striped marlin	104,722	93,550	100,732	1.08
Shortnose spearfish	24,777	24,777	22,047	0.89
Sailfish	1,211	1,027	410	0.40
Crabs	1,168	220	1,482	6.74
Shrimp (saltwater)	418	10	130	13.0
Octopus	1,731	1,731	6,189	3.58
Squid	55	47	131	2.81
Limpets (saltwater)	1,746	704	6,340	9.00
Invertebrates	995	0	0	0.00
Algae	581	449	2,186	4.87
TOTAL	3,187,943	2,862,361	6,018,936	2.10

Table D-7
Hawaii June 2007 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Miscellaneous	342	342	641	1.88
Sharks	35,608	31,901	13,233	0.41
Eels	215	215	215	1.00
Bigeye scad (akule)	95,645	30,963	70,792	2.29
Mackerel scad	20,973	8,237	20,275	2.46
Leatherjacket	2	2	3	1.25
Ten pounder	149	120	156	1.30
Bonefish	1,046	1,014	1,136	1.12
Milkfish	2	1	1	1.00
Needlefishes	8	5	10	2.00
Mullets	308	213	781	3.66
Pomfret	56,379	55,235	124,655	2.26
Oilfish	40,216	40,216	82,956	2.06
Jacks	164	12	25	2.00
Amberjack	38	9	27	3.00
Sasa ulua	3	3	7	2.75
Pig-lipped ulua	1,236	1,133	1,621	1.43
Papa ulua	511	306	864	2.82
White ulua	5,041	1,680	4,096	2.44
Black ulua	71	40	55	1.38
Blue trevally	517	434	1,269	2.93
Hawaiian grouper	3,320	3,269	14,216	4.35
Blue spot grouper	147	17	33	2.00
Snappers	275	275	1,044	3.80
Blue lined snapper	3,713	3,713	5,127	1.38
Ehu (red snapper)	1,481	1,326	3,625	2.73
Gindai (flower snapper)	373	355	1,123	3.16
Golden kalekale	243	184	392	2.13
Onaga (red snapper)	5,325	5,222	23,230	4.45
Opakapaka (pink snapper)	3,022	2,871	13,399	4.67
Uku (gray snapper)	18,663	17,218	48,614	2.82
Porgy	340	340	1,169	3.44
Reef fishes (unknown)	20	0	0	0.00
Squirrelfishes	3,142	2,409	9,434	3.92
Scorpionfishes	125	48	157	3.30
Mountain bass	115	95	403	4.25
Bigeyes	331	183	645	3.53
Goatfishes	4,198	1,925	7,001	3.64
Rudderfish	3,210	3,096	3,421	1.11
Damselfishes	132	132	343	2.60
Hawkfish	26	21	55	2.56
Tilapia	295	0	0	0.00
Wrasses	321	278	622	2.24
Parrotfishes	7,131	7,131	27,008	3.79
Surgeonfishes/tangs	7,255	7,255	13,894	1.92
Flounders	7	7	7	1.00

Table D-7 (continued)
Hawaii June 2007 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Filefishes	79	79	143	1.82
Pelagic fishes (unknown)	48	0	0	0.00
Moonfish (opah)	75,947	75,947	153,606	2.02
Rainbow runner	184	69	91	1.32
Mahimahi	68,380	52,920	176,649	3.34
Barracudas	4,278	3,479	3,218	0.93
Wahoo	136,691	109,029	247,797	2.27
Tunas (unknown)	1,669	1,669	6,505	3.90
Skipjack tuna	132,947	108,584	100,837	0.93
Yellowfin tuna	385,383	336,851	665,765	1.98
Albacore tuna	52,683	52,683	76,598	1.45
Bigeye tuna	1,028,486	1,000,165	3,101,349	3.10
Kawakawa	1,054	74	110	1.49
Billfishes (unknown)	736	736	373	0.51
Swordfish	296,421	296,421	781,632	2.64
Blue marlin	113,187	88,920	93,978	1.06
Black marlin	2,154	329	246	0.75
Striped marlin	85,987	85,987	106,197	1.24
Shortnose spearfish	24,277	24,277	22,594	0.93
Sailfish	1,139	1,139	844	0.74
Crabs	885	299	1,794	6.01
Octopus	936	717	2,583	3.60
Squid	506	506	823	1.63
Limpets (saltwater)	874	427	2,478	5.80
Invertebrates	1,030	272	7,266	26.7
Algae	780	196	1,352	6.92
TOTAL	2,738,423	2,471,220	6,052,608	2.45

Table D-8
Hawaii July 2007 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Miscellaneous	79	36	17	0.48
Sharks	43,099	38,726	15,100	0.39
Eels	470	470	483	1.03
Bigeye scad (akule)	101,401	20,827	52,067	2.50
Mackerel scad	27,938	13,385	32,679	2.44
Leatherjacket	10	10	14	1.37
Ten pounder	48	7	7	1.00
Bonefish	17	16	16	1.00
Milkfish	294	243	332	1.36
Needlefishes	1,008	0	0	0.00
Mullets	1,274	1,077	4,085	3.79
Pomfret	53,007	50,184	143,807	2.87
Oilfish	41,362	41,362	94,245	2.28
Jacks	51	3	14	4.95
Amberjack	196	0	0	0.00
Sasa ulua	109	82	204	2.50
Pig-lipped ulua	443	443	906	2.04
Papa ulua	87	48	135	2.80
White ulua	2,459	795	1,582	1.99
Black ulua	70	0	0	0.00
Blue trevally	809	615	1,244	2.02
Hawaiian grouper	2,201	2,201	9,212	4.19
Blue spot grouper	118	34	89	2.61
Snappers	504	504	1,599	3.18
Blue lined snapper	4,320	4,320	5,819	1.35
Ehu (red snapper)	6	0	0	0.00
Gindai (flower snapper)	93	93	227	2.45
Golden kalekale	86	86	266	3.09
Onaga (red snapper)	2,772	2,772	15,850	5.72
Opakapaka (pink snapper)	1,117	1,117	5,542	4.96
Uku (gray snapper)	7,655	7,351	28,118	3.83
Porgy	307	307	1,028	3.34
Reef fishes (unknown)	8	0	0	0.00
Squirrelfishes	2,802	2,578	10,205	3.96
Trumpetfish	2	2	2	1.00
Scorpionfishes	238	145	437	3.01
Mountain bass	231	231	848	3.67
Bigeyes	374	213	775	3.63
Goatfishes	2,455	2,254	8,864	3.93
Rudderfish	4,223	4,223	4,447	1.05
Damselfishes	142	142	355	2.51
Hawkfish	105	105	266	2.53
Tilapia	690	0	0	0.00
Wrasses	385	250	445	1.78
Parrotfishes	3,353	3,353	11,620	3.47
Surgeonfishes/tangs	10,911	10,911	20,302	1.86

Table D-8 (continued)
Hawaii July 2007 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Flounders	13	13	13	1.00
Filefishes	59	41	72	1.75
Moonfish (opah)	143,571	143,295	210,907	1.47
Rainbow runner	59	39	62	1.58
Mahimahi	136,083	116,406	305,414	2.62
Barracudas	2,053	2,053	2,860	1.39
Wahoo	99,935	76,852	253,952	3.30
Japanese mackerel	1	0	0	0.00
Tunas (unknown)	1,450	2	6	3.00
Skipjack tuna	107,370	79,899	81,155	1.02
Yellowfin tuna	349,690	329,902	828,816	2.51
Albacore tuna	87,143	87,143	121,026	1.39
Bigeye tuna	935,365	845,583	3,414,570	4.04
Kawakawa	1,121	168	335	2.00
Billfishes (unknown)	270	0	0	0.00
Swordfish	240,201	232,117	597,518	2.57
Blue marlin	91,573	72,978	99,968	1.37
Black marlin	685	404	419	1.04
Striped marlin	56,832	56,832	112,869	1.99
Shortnose spearfish	14,825	13,489	22,424	1.66
Sailfish	1,105	1,105	1,323	1.20
Crabs	2,014	159	1,082	6.82
Octopus	880	880	3,379	3.84
Squid	892	892	2,262	2.54
Limpets (saltwater)	458	458	3,628	7.93
Invertebrates	375	0	0	0.00
Algae	1,029	227	2,573	11.4
TOTAL	2,594,381	2,272,454	6,539,881	2.88

Table D-9
Hawaii August 2007 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Miscellaneous	612	177	520	2.94
Sharks	45,350	37,492	19,623	0.52
Eels	349	349	349	1.00
Bigeye scad (akule)	56,500	27,525	59,733	2.17
Mackerel scad	32,486	18,152	42,890	2.36
Leatherjacket	10	10	14	1.47
Ten pounder	165	0	0	0.00
Bonefish	1,830	1,662	1,662	1.00
Milkfish	107	101	189	1.88
Needlefishes	151	43	83	1.96
Mullets	1,587	1,571	5,628	3.58
Pomfret	48,719	45,301	129,974	2.87
Oilfish	33,183	33,183	101,723	3.07
Jacks	276	276	682	2.47
Amberjack	271	0	0	0.00
Sasa ulua	86	13	34	2.72
Pig-lipped ulua	224	108	256	2.37
Dobe ulua	2	2	3	1.50
Papa ulua	232	104	379	3.66
White ulua	1,395	704	1,473	2.09
Black ulua	314	0	0	0.00
Blue trevally	1,056	361	968	2.68
Hawaiian grouper	888	757	4,255	5.62
Blue spot grouper	145	40	92	2.30
Snappers	405	358	1,196	3.34
Blue lined snapper	3,886	3,176	4,549	1.43
Ehu (red snapper)	165	99	463	4.68
Gindai (flower snapper)	91	44	191	4.35
Golden kalekale	76	61	234	3.83
Onaga (red snapper)	1,833	1,810	11,435	6.32
Opakapaka (pink snapper)	212	152	959	6.31
Uku (gray snapper)	10,157	9,068	33,735	3.72
Porgy	379	379	1,265	3.34
Reef jacks	1	0	0	0.00
Squirrelfishes	5,996	5,996	24,220	4.04
Trumpetfish	3	3	2	0.81
Scorpionfishes	103	84	240	2.84
Mountain bass	310	94	425	4.53
Bigeyes	481	481	1,812	3.77
Goatfishes	3,826	3,037	10,905	3.59
Rudderfish	8,464	8,464	8,857	1.05
Damselfishes	214	214	569	2.66
Hawkfish	58	58	156	2.69
Tilapia	580	0	0	0.00
Wrasses	546	379	1,222	3.22
Parrotfishes	4,018	4,018	14,370	3.58

Table D-9 (continued)
Hawaii August 2007 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Surgeonfishes/tangs	13,963	13,963	23,475	1.68
Flounders	6	6	6	1.00
Filefishes	31	21	36	1.75
Moonfish (opah)	173,298	170,195	252,649	1.48
Rainbow runner	299	142	316	2.22
Mahimahi	237,600	188,415	432,033	2.29
Barracudas	2,522	2,522	4,154	1.65
Wahoo	81,469	64,721	220,457	3.41
Tunas (unknown)	603	0	0	0.00
Skipjack tuna	74,073	61,033	68,586	1.12
Yellowfin tuna	307,719	286,363	782,437	2.73
Albacore tuna	61,981	61,981	110,677	1.79
Bigeye tuna	930,345	859,158	3,833,412	4.46
Kawakawa	1,475	331	515	1.56
Billfishes (unknown)	1,610	0	0	0.00
Swordfish	72,527	72,527	198,817	2.74
Blue marlin	80,283	71,881	106,960	1.49
Black marlin	249	0	0	0.00
Striped marlin	26,948	20,126	56,604	2.81
Shortnose spearfish	16,231	15,981	26,021	1.63
Sailfish	3,037	2,883	4,941	1.71
Crabs	3,623	846	2,872	3.40
Shrimp (saltwater)	258	63	94	1.50
Octopus	1,212	1,193	4,134	3.47
Squid	324	165	452	2.73
Limpets (saltwater)	825	825	5,459	6.62
Invertebrates	3	3	0	0.00
Algae	364	109	1,151	10.5
TOTAL	2,360,618	2,101,353	6,623,591	3.15

Table D-10
Hawaii September 2007 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Miscellaneous	99	99	88	0.88
Sharks	41,456	37,017	16,728	0.45
Eels	158	158	158	1.00
Bigeye scad (akule)	32,637	15,860	37,017	2.33
Mackerel scad	38,915	24,327	57,996	2.38
Leatherjacket	8	8	11	1.49
Ten pounder	46	15	15	1.00
Bonefish	213	191	191	1.00
Milkfish	271	271	363	1.34
Needlefishes	35	35	56	1.61
Threadfin	33	9	58	6.71
Mullets	3,087	3,087	10,881	3.52
Pomfret	68,695	68,695	128,280	1.87
Oilfish	30,430	30,430	72,646	2.39
Jacks	62	45	135	3.00
Amberjack	87	0	0	0.00
Sasa ulua	13	9	23	2.50
Pig-lipped ulua	730	487	1,011	2.08
Dobe ulua	9	0	0	0.00
Papa ulua	58	33	89	2.71
White ulua	2,550	829	1,911	2.30
Black ulua	80	80	167	2.09
Blue trevally	523	258	676	2.62
Hawaiian grouper	3,087	1,842	9,768	5.30
Blue spot grouper	68	36	91	2.56
Snappers	154	154	494	3.21
Blue lined snapper	1,306	1,306	1,969	1.51
Ehu (red snapper)	666	466	2,140	4.60
Gindai (flower snapper)	248	96	342	3.58
Golden kalekale	173	41	161	3.96
Onaga (red snapper)	2,907	2,423	15,573	6.43
Opakapaka (pink snapper)	3,604	2,492	13,057	5.24
Uku (gray snapper)	13,773	9,265	32,993	3.56
Porgy	589	589	2,078	3.53
Reef fishes (unknown)	50	0	0	0.00
Reef jacks	5	5	20	4.00
Squirrelfishes	4,818	4,818	19,912	4.13
Trumpetfish	6	1	1	0.90
Scorpionfishes	81	81	237	2.93
Mountain bass	59	59	289	4.91
Bigeyes	251	251	884	3.53
Goatfishes	3,832	2,934	11,255	3.84
Rudderfish	2,901	2,901	3,298	1.14
Damselfishes	93	93	247	2.67
Hawkfish	42	42	82	1.94
Tilapia	330	0	0	0.00

Table D-10 (continued)
Hawaii September 2007 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Wrasses	375	214	659	3.08
Parrotfishes	3,747	3,747	13,572	3.62
Surgeonfishes/tangs	9,194	9,194	16,047	1.75
Flounders	12	12	12	1.01
Filefishes	18	15	26	1.75
Moonfish (opah)	175,691	175,691	194,588	1.11
Rainbow runner	88	83	143	1.73
Mahimahi	154,178	118,946	285,829	2.40
Barracudas	4,081	4,081	4,676	1.15
Wahoo	55,499	47,940	147,974	3.09
Tunas (unknown)	977	977	3,908	4.00
Skipjack tuna	51,632	34,293	44,121	1.29
Yellowfin tuna	251,561	243,869	497,645	2.04
Albacore tuna	64,383	64,383	73,253	1.14
Bigeye tuna	1,024,960	985,469	3,218,651	3.27
Kawakawa	589	99	186	1.87
Billfishes (unknown)	240	0	0	0.00
Swordfish	11,305	11,088	35,783	3.23
Blue marlin	62,510	61,138	65,709	1.07
Black marlin	108	108	135	1.25
Striped marlin	21,382	16,220	32,113	1.98
Shortnose spearfish	19,548	19,548	19,711	1.01
Sailfish	6,494	6,494	5,118	0.79
Spiny lobsters	492	437	5,294	12.1
Slipper lobsters	17	0	0	0.00
Crabs	5,075	1,695	6,872	4.05
Shrimp (saltwater)	510	0	0	0.00
Octopus	2,275	2,275	8,097	3.56
Squid	398	398	964	2.42
Limpets (saltwater)	230	230	4,285	18.6
Invertebrates	120	3	0	0.00
Algae	715	444	2,105	4.74
TOTAL	2,187,638	2,020,926	5,130,867	2.54

Table D-11
Hawaii October 2007 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Miscellaneous	83	83	44	0.53
Sharks	24,316	21,417	15,504	0.72
Eels	115	115	115	1.00
Bigeye scad (akule)	10,881	6,961	20,407	2.93
Mackerel scad	42,020	25,056	57,395	2.29
Leatherjacket	12	6	8	1.40
Bonefish	57	57	71	1.25
Needlefishes	84	34	47	1.38
Threadfin	86	33	229	6.95
Mullets	233	209	749	3.59
Pomfret	69,437	67,027	141,940	2.12
Oilfish	21,302	21,302	59,924	2.81
Jacks	103	103	288	2.79
Amberjack	1,479	280	529	1.89
Sasa ulua	17	2	6	3.00
Pig-lipped ulua	380	380	766	2.02
Dobe ulua	15	0	0	0.00
Papa ulua	96	18	42	2.33
White ulua	1,890	1,119	1,812	1.62
Black ulua	44	33	43	1.30
Blue trevally	1,164	474	849	1.79
Hawaiian grouper	2,426	2,286	11,848	5.18
Blue spot grouper	63	11	25	2.37
Snappers	107	104	330	3.18
Yellow-tail kali	3	3	11	3.50
Blue lined snapper	3,681	3,681	4,780	1.30
Ehu (red snapper)	2,251	1,776	8,555	4.82
Gindai (flower snapper)	864	733	2,784	3.80
Golden kalekale	852	721	2,479	3.44
Lehi (silverjaw)	792	753	2,664	3.54
Onaga (red snapper)	9,031	7,262	46,312	6.38
Opakapaka (pink snapper)	13,208	9,757	54,135	5.55
Uku (gray snapper)	12,651	12,223	42,272	3.46
Porgy	297	297	1,002	3.38
Reef fishes (unknown)	7	0	0	0.00
Reef jacks	28	0	0	0.00
Squirrelfishes	3,205	3,205	13,093	4.09
Trumpetfish	2	2	2	1.00
Scorpionfishes	187	117	524	4.49
Mountain bass	390	282	1,190	4.21
Bigeyes	642	464	1,691	3.65
Goatfishes	2,328	2,257	8,983	3.98
Rudderfish	3,792	3,792	3,994	1.05
Damselfishes	200	200	581	2.90
Hawkfish	25	25	54	2.12
Tilapia	15	0	0	0.00

Table D-11 (continued)
Hawaii October 2007 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Wrasses	318	297	1,264	4.25
Parrotfishes	3,252	3,252	11,338	3.49
Surgeonfishes/tangs	6,376	6,376	10,884	1.71
Flounders	2	1	2	1.50
Filefishes	13	13	22	1.75
Moonfish (opah)	141,608	139,320	223,430	1.60
Rainbow runner	194	79	147	1.85
Mahimahi	152,296	135,141	364,966	2.70
Barracudas	1,815	1,769	1,238	0.70
Wahoo	56,686	50,292	151,262	3.01
Tunas (unknown)	1,128	1,128	4,849	4.30
Skipjack tuna	41,613	23,760	33,897	1.43
Yellowfin tuna	462,479	425,389	880,455	2.07
Albacore tuna	59,435	50,277	70,185	1.40
Bigeye tuna	1,258,142	1,148,489	3,639,892	3.17
Kawakawa	398	125	296	2.37
Billfishes (unknown)	450	0	0	0.00
Swordfish	18,374	14,400	47,676	3.31
Blue marlin	96,483	96,483	97,631	1.01
Black marlin	139	139	150	1.08
Striped marlin	30,960	21,034	41,670	1.98
Shortnose spearfish	27,938	26,381	24,809	0.94
Sailfish	7,678	7,678	5,834	0.76
Spiny lobsters	1,443	1,387	17,349	12.5
Slipper lobsters	26	0	0	0.00
Crabs	5,633	1,341	5,743	4.28
Shrimp (saltwater)	1,185	109	218	2.00
Octopus	2,141	2,130	7,979	3.75
Squid	89	28	84	3.00
Limpets (saltwater)	700	700	5,466	7.81
Invertebrates	86	86	336	3.91
Algae	716	578	4,142	7.17
TOTAL	2,610,652	2,352,839	6,161,287	2.62

Table D-12
Hawaii November 2007 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Miscellaneous	80	80	56	0.69
Sharks	34,342	28,283	11,017	0.39
Rays	6	0	0	0.00
Eels	100	100	118	1.18
Bigeye scad (akule)	66,803	13,623	35,316	2.59
Mackerel scad	40,742	20,751	47,163	2.27
Leatherjacket	132	132	264	1.99
Ten pounder	60	57	57	1.00
Bonefish	780	780	780	1.00
Milkfish	374	374	467	1.25
Needlefishes	130	16	29	1.76
Threadfin	91	41	205	5.00
Mullets	2,068	1,748	6,618	3.79
Pomfret	49,406	49,406	108,408	2.19
Oilfish	22,192	21,984	53,703	2.44
Jacks	87	0	0	0.00
Amberjack	2,760	454	879	1.94
Sasa ulua	20	20	50	2.49
Pig-lipped ulua	4,151	3,493	2,565	0.73
Papa ulua	369	182	551	3.03
White ulua	1,504	1,504	3,394	2.26
Black ulua	157	39	39	1.00
Blue trevally	654	262	458	1.75
Hawaiian grouper	3,452	2,396	13,523	5.64
Blue spot grouper	175	101	283	2.82
Snappers	72	50	197	3.96
Yellow-tail kali	5	2	6	3.50
Blue lined snapper	3,443	2,909	3,717	1.28
Ehu (red snapper)	2,523	1,322	5,844	4.42
Gindai (flower snapper)	493	350	1,416	4.05
Golden kalekale	1,071	912	3,023	3.32
Lehi (silverjaw)	1,872	1,596	5,584	3.50
Onaga (red snapper)	12,330	10,824	64,544	5.96
Opakapaka (pink snapper)	20,275	15,851	82,402	5.20
Uku (gray snapper)	20,816	16,757	46,267	2.76
Porgy	284	284	993	3.50
Reef fishes (unknown)	14	0	0	0.00
Squirrelfishes	6,161	3,137	13,791	4.40
Trumpetfish	10	3	3	1.00
Scorpionfishes	223	101	376	3.74
Mountain bass	216	216	997	4.61
Bigeyes	387	281	965	3.44
Goatfishes	3,259	2,565	9,604	3.74
Rudderfish	479	479	898	1.87
Damselfishes	46	30	69	2.29
Hawkfish	21	17	37	2.12

Table D-12 (continued)
Hawaii November 2007 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Tilapia	281	216	540	2.50
Wrasses	228	122	655	5.38
Parrotfishes	2,906	2,301	7,766	3.38
Surgeonfishes/tangs	4,440	4,440	8,437	1.90
Flounders	14	10	19	1.87
Filefishes	4	2	4	1.75
Pelagic fishes (unknown)	48	0	0	0.00
Moonfish (opah)	107,079	107,079	176,388	1.65
Rainbow runner	185	50	88	1.74
Mahimahi	212,723	182,563	330,566	1.81
Barracudas	1,023	1,023	760	0.74
Wahoo	45,221	42,672	125,855	2.95
Tunas (unknown)	318	231	341	1.48
Skipjack tuna	48,559	8,215	10,149	1.24
Yellowfin tuna	473,405	459,369	726,130	1.58
Albacore tuna	110,509	110,509	114,821	1.04
Bigeye tuna	1,565,880	1,498,093	3,735,559	2.49
Kawakawa	764	167	296	1.78
Billfishes (unknown)	450	0	0	0.00
Swordfish	21,894	17,505	46,132	2.64
Blue marlin	63,467	63,467	73,254	1.15
Black marlin	285	0	0	0.00
Striped marlin	28,941	24,529	43,959	1.79
Shortnose spearfish	35,648	33,313	25,616	0.77
Sailfish	3,255	3,255	2,319	0.71
Spiny lobsters	936	773	10,046	13.0
Slipper lobsters	5	0	0	0.00
Crabs	7,620	3,074	12,766	4.15
Shrimp (saltwater)	214	33	50	1.50
Octopus	1,410	1,410	4,821	3.42
Squid	19	19	55	2.83
Limpets (saltwater)	653	653	4,364	6.68
Invertebrates	440	110	0	0.00
Algae	151	147	1,384	9.43
TOTAL	3,043,604	2,768,858	5,989,810	2.16

Table D-13
Hawaii December 2007 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Miscellaneous	212	212	162	0.77
Sharks	54,103	30,881	4,655	0.15
Eels	53	53	55	1.03
Armorhead	6	0	0	0.00
Bigeye scad (akule)	12,905	8,476	19,966	2.36
Mackerel scad	26,331	13,223	30,287	2.29
Leatherjacket	6	6	9	1.41
Ten pounder	20	20	20	1.00
Bonefish	15	9	18	2.11
Milkfish	5	0	0	0.00
Needlefishes	16	16	16	1.00
Threadfin	107	77	514	6.68
Mullets	18	18	35	2.00
Pomfret	35,207	33,529	111,281	3.32
Oilfish	55,777	55,777	82,384	1.48
Jacks	70	22	97	4.41
Amberjack	2,600	161	363	2.25
Sasa ulua	6	0	0	0.00
Pig-lipped ulua	300	209	536	2.57
Dobe ulua	7	7	26	4.00
Papa ulua	411	148	512	3.45
White ulua	684	608	1,096	1.80
Black ulua	36	0	0	0.00
Blue trevally	305	285	826	2.90
Hawaiian grouper	1,343	1,343	9,427	7.02
Blue spot grouper	87	67	205	3.08
Snappers	179	179	769	4.30
Blue lined snapper	1,180	974	1,457	1.50
Ehu (red snapper)	3,459	2,140	14,400	6.73
Gindai (flower snapper)	505	265	1,357	5.13
Golden kalekale	838	385	1,606	4.17
Lehi (silverjaw)	1,771	1,314	5,229	3.98
Onaga (red snapper)	12,054	10,275	83,407	8.12
Opakapaka (pink snapper)	9,369	6,836	46,537	6.81
Uku (gray snapper)	11,543	11,543	38,717	3.35
Porgy	108	108	337	3.12
Reef fishes (unknown)	7	0	0	0.00
Squirrelfishes	1,499	1,499	6,309	4.21
Trumpetfish	6	6	6	1.00
Scorpionfishes	217	136	814	5.97
Mountain bass	168	168	706	4.20
Bigeyes	337	337	1,042	3.09
Goatfishes	1,053	843	4,532	5.38
Rudderfish	286	286	308	1.08
Damselfishes	58	58	155	2.68
Hawkfish	15	15	48	3.13

Table D-13 (continued)
Hawaii December 2007 Reported Commercial Landings

Species	Caught	Sold	Value ($)	Price/Lb ($)
Tilapia	5	0	0	0.00
Wrasses	171	46	63	1.38
Parrotfishes	2,552	2,552	9,333	3.66
Surgeonfishes/tangs	4,099	4,099	7,388	1.80
Filefishes	3	3	4	1.54
Moonfish (opah)	80,883	80,517	187,709	2.33
Rainbow runner	31	12	18	1.50
Mahimahi	145,584	125,718	231,048	1.84
Barracudas	654	284	232	0.81
Wahoo	40,107	34,730	127,400	3.67
Tunas (unknown)	184	55	167	3.04
Skipjack tuna	88,929	41,224	34,672	0.84
Yellowfin tuna	274,182	261,434	791,137	3.03
Albacore tuna	42,922	42,922	90,372	2.11
Bigeye tuna	1,807,076	1,807,076	5,947,516	3.29
Kawakawa	449	125	355	2.84
Billfishes (unknown)	450	0	0	0.00
Swordfish	78,026	78,026	187,533	2.40
Blue marlin	24,163	22,000	45,745	2.08
Black marlin	431	431	873	2.03
Striped marlin	31,850	31,850	73,927	2.32
Shortnose spearfish	70,204	70,204	41,662	0.59
Sailfish	828	453	773	1.71
Spiny lobsters	487	472	5,930	12.6
Slipper lobsters	5	0	0	0.00
Crabs	5,463	1,641	6,715	4.09
Shrimp (saltwater)	603	0	0	0.00
Octopus	1,297	1,297	4,700	3.62
Squid	19	19	38	2.00
Limpets (saltwater)	753	753	5,470	7.26
Invertebrates	507	507	17,710	34.9
Algae	190	190	2,246	11.8
TOTAL	2,938,387	2,791,150	8,290,958	2.97

The following are summary charts of the major species and species groups by month:

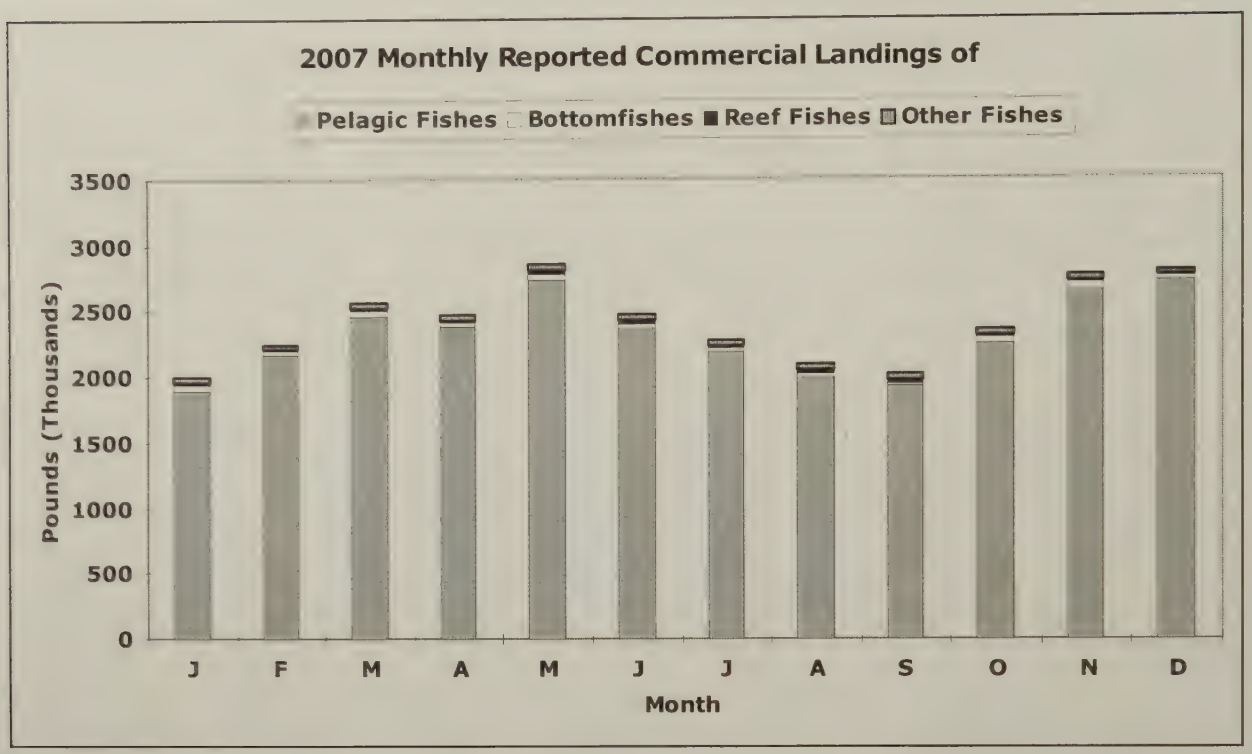

Figure D-1-1

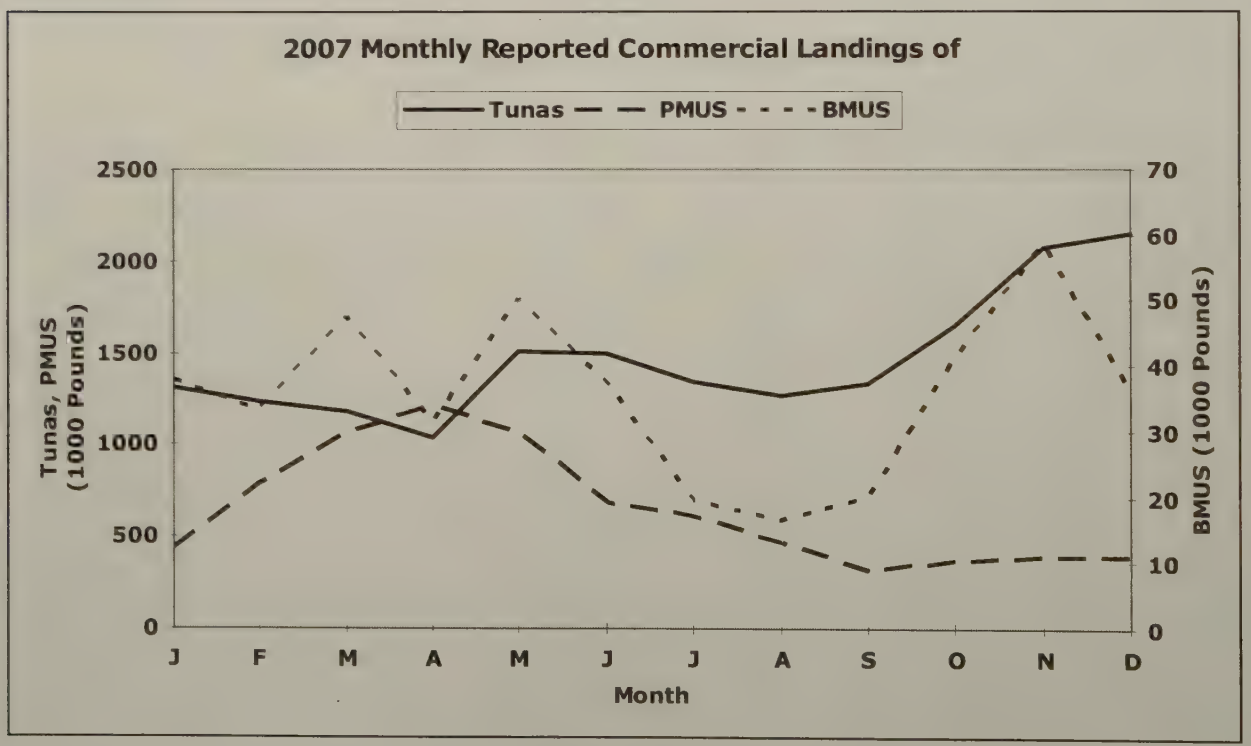

Figure D-1-2

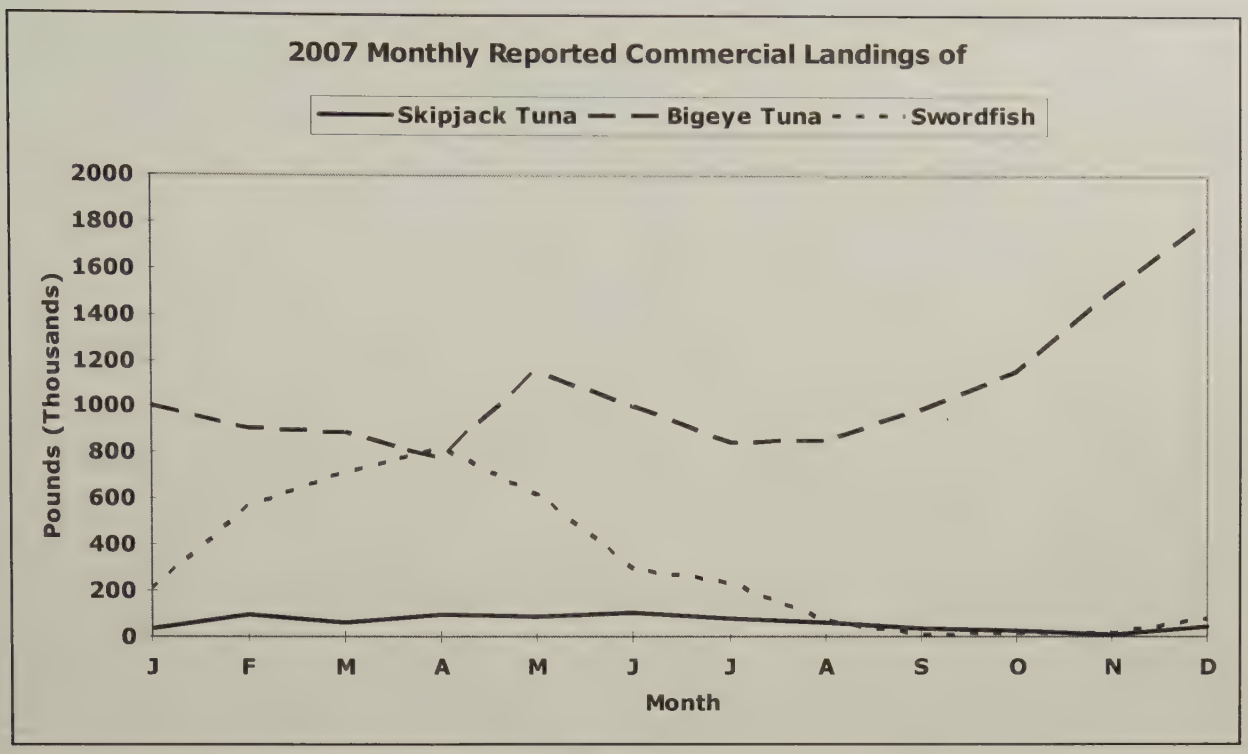

Figure D-1-3

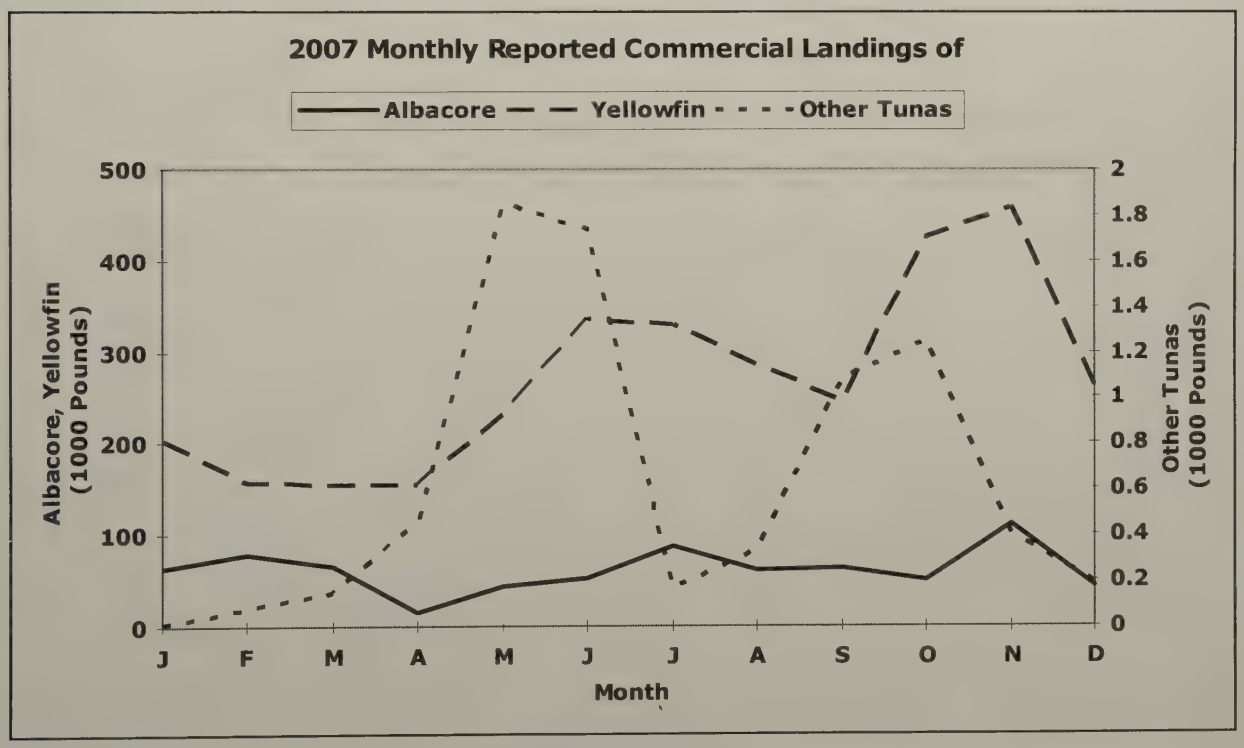

Figure D-1-4

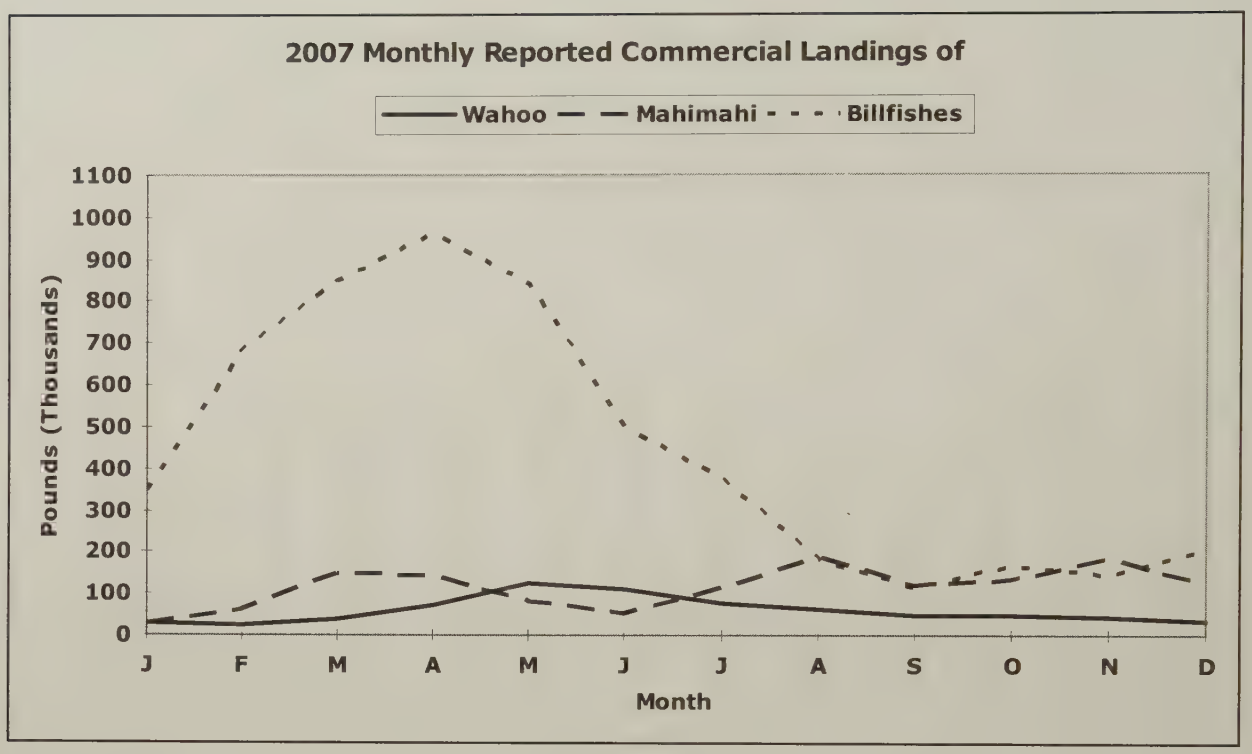
2007 Monthly Reported Commercial Landings of
Wahoo
Mahimahi
Billfishes
Pounds (Thousands)
1100
1000
900
800
700
600
500
400
300
200
100
0
J
F
M
A
M
J
J
A
S
O
N
D
Month

Figure D-1-5

The following are seasonality plots for the major species or species groups, showing the average weight landed during each month for all years combined:

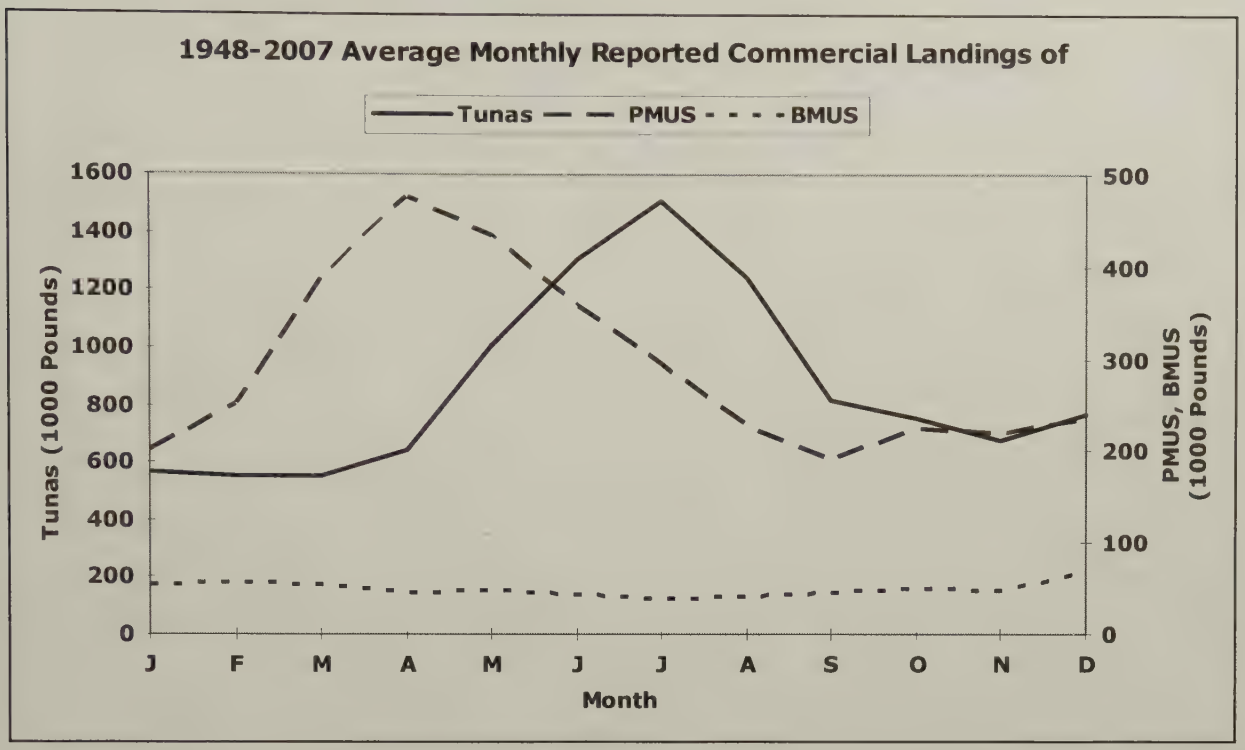

Figure D-2-1

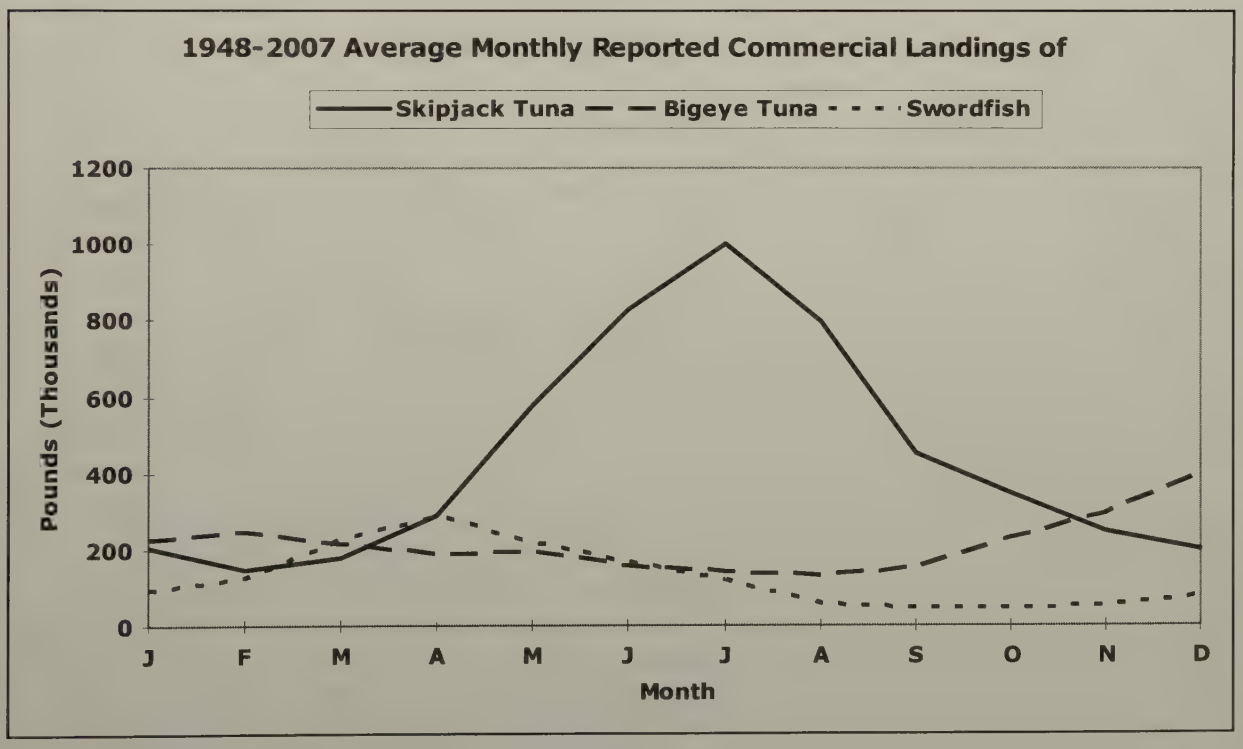

Figure D-2-2

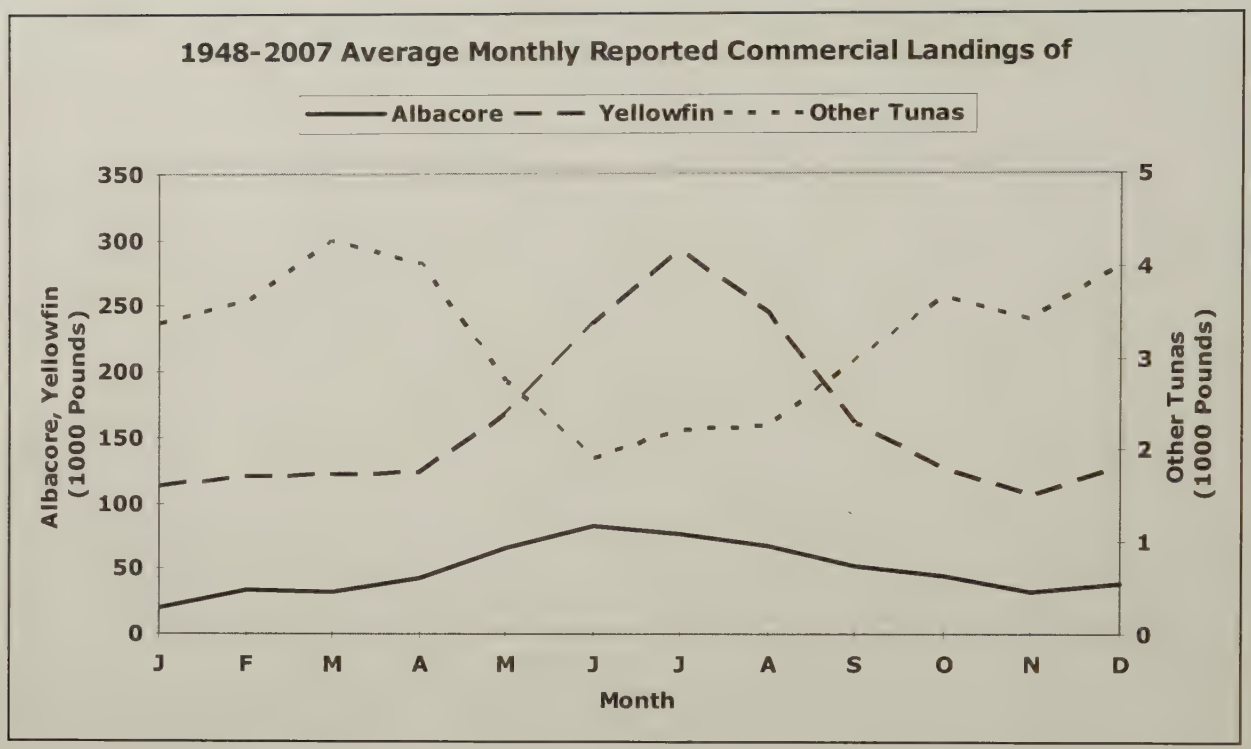

Figure D-2-3

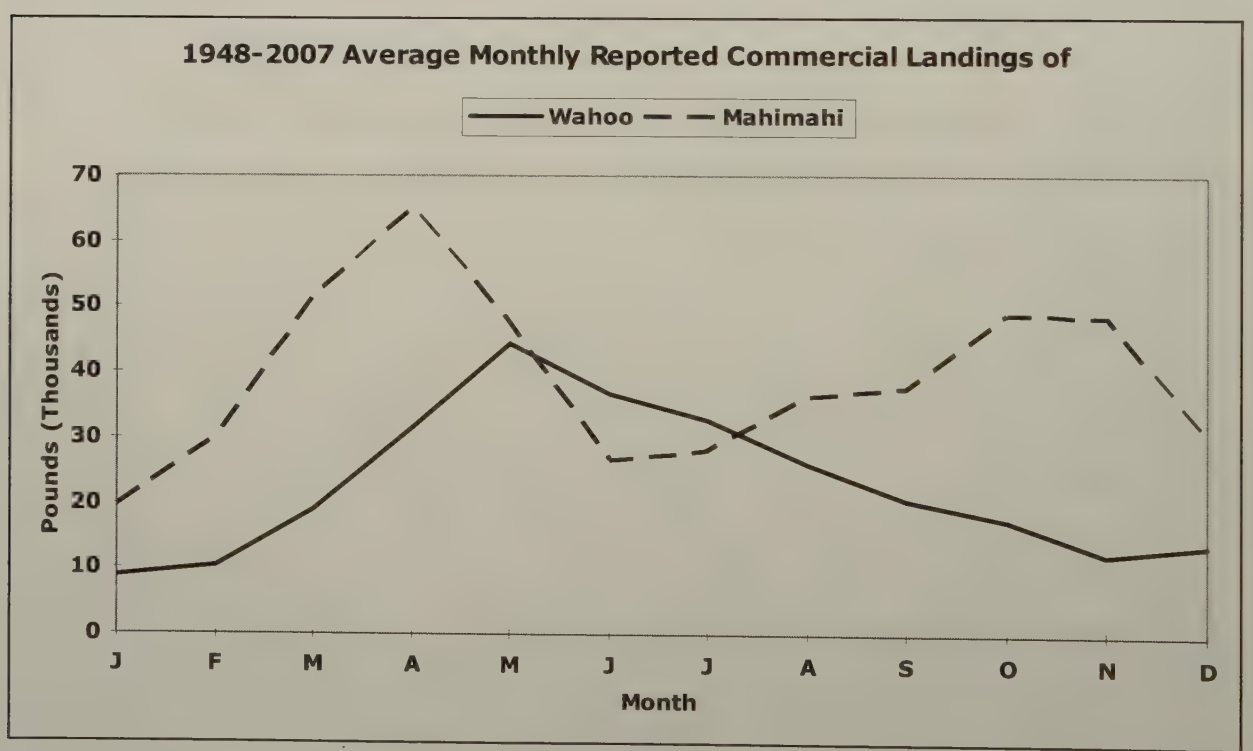

Figure D-2-4

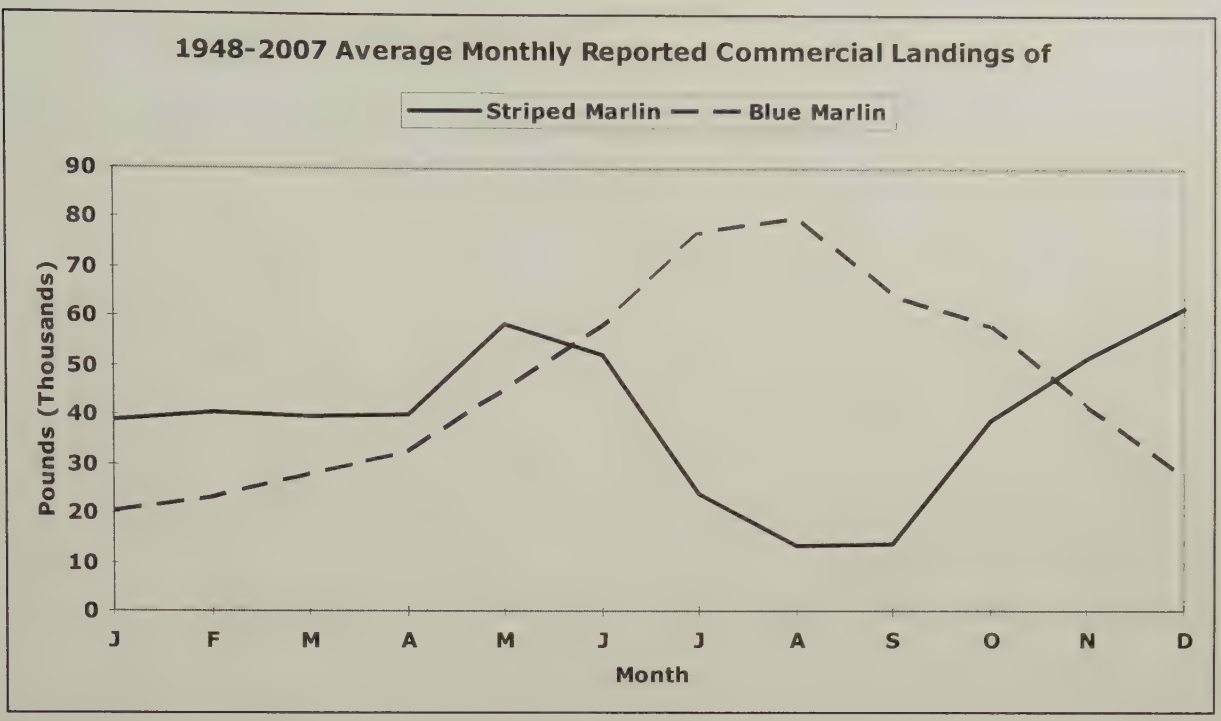

Figure D-2-5

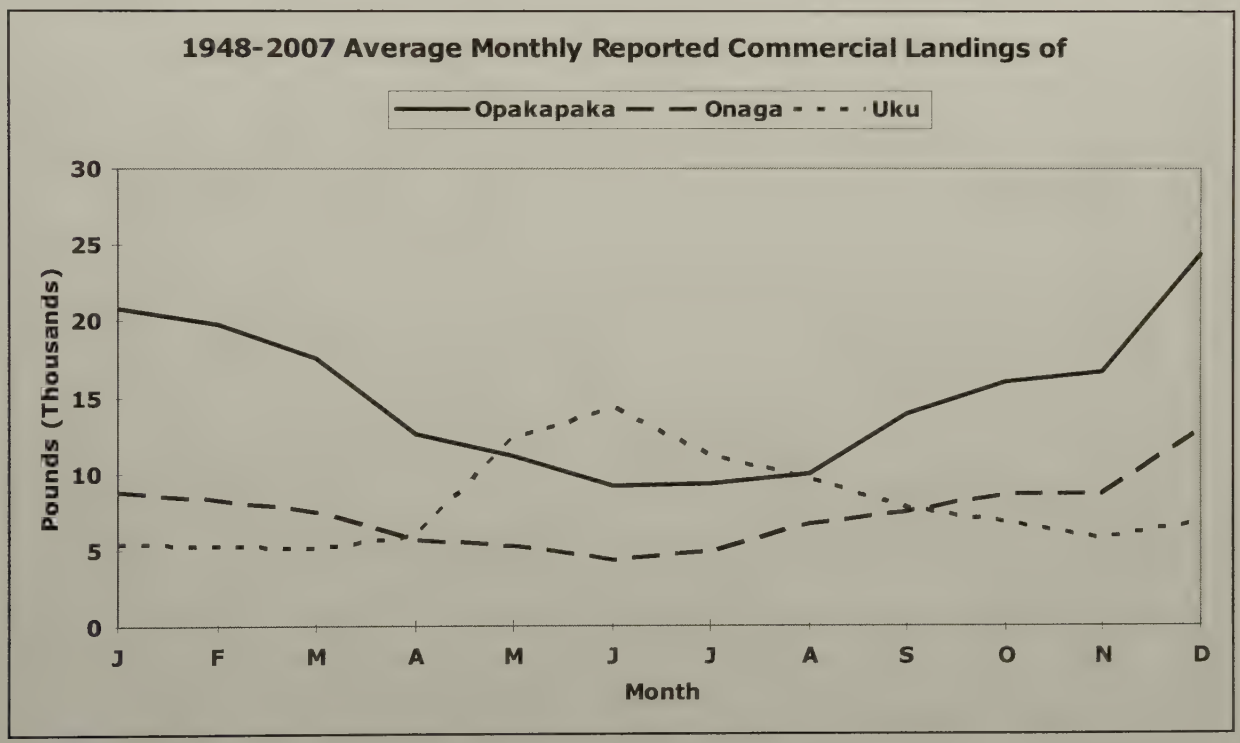

Figure D-2-6

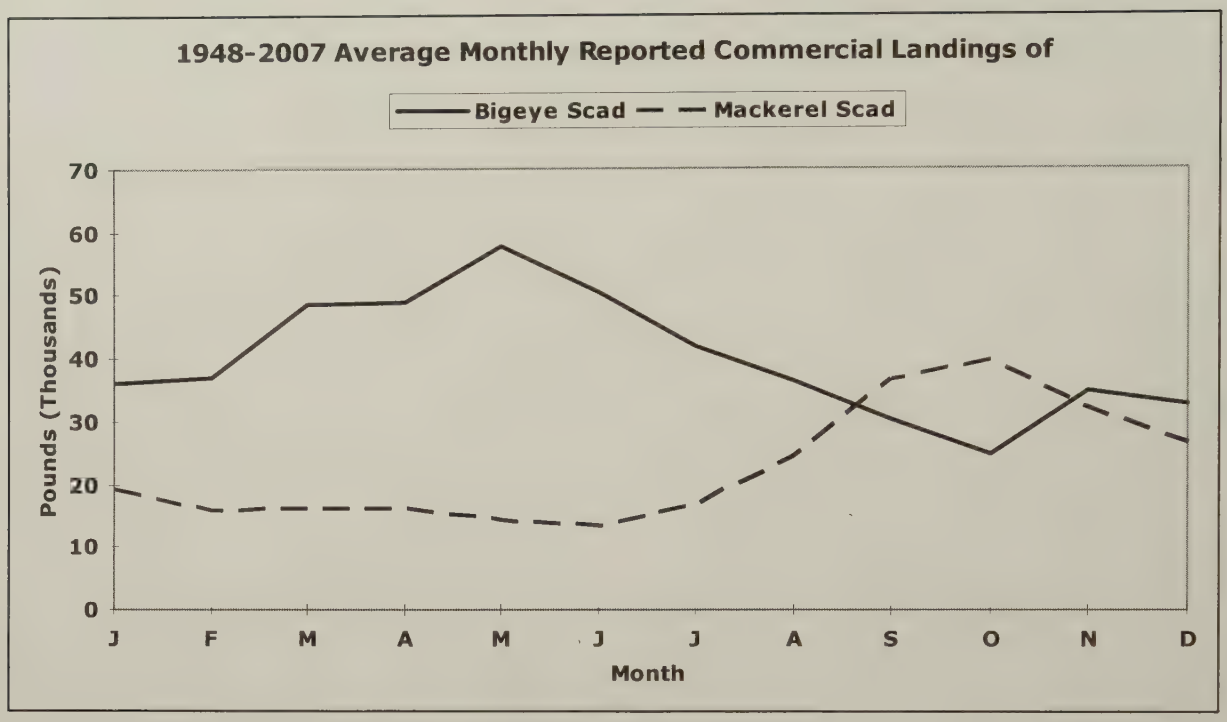

Figure D-2-7

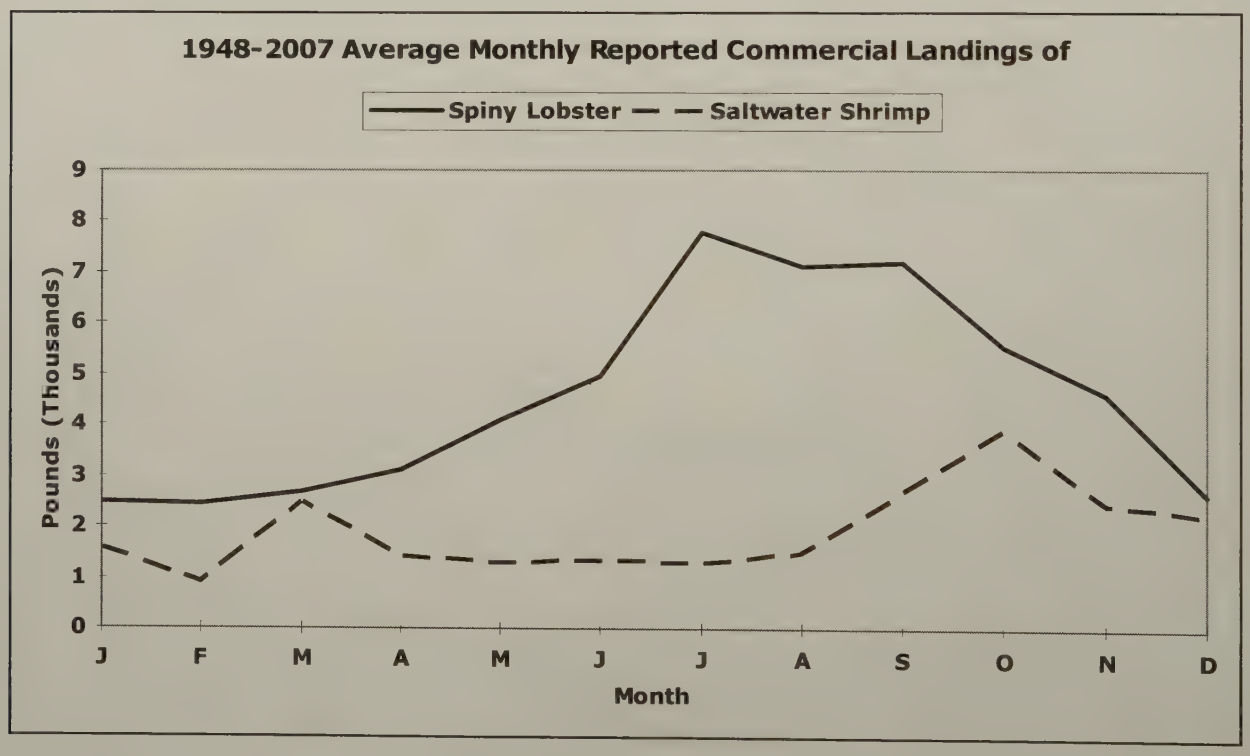

Figure D-2-8

The following graphs plot annual summary statistics to illustrate the variability among years:

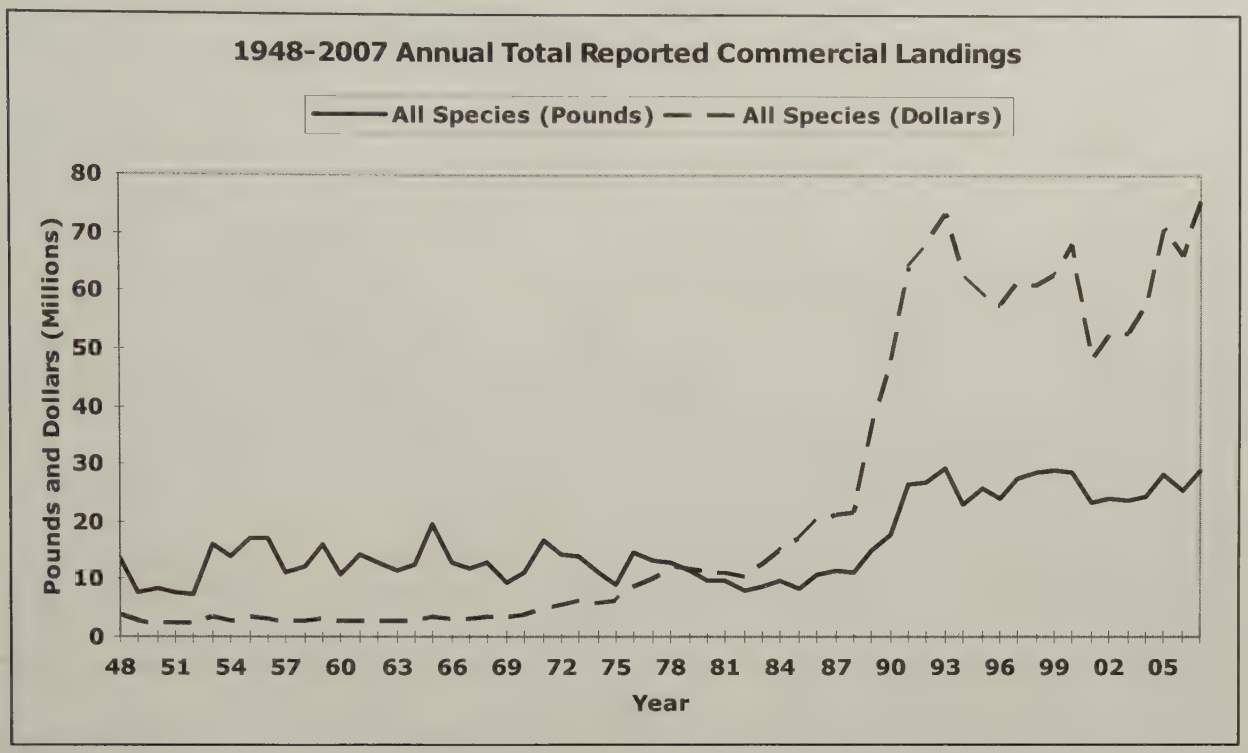

Figure D-3-1

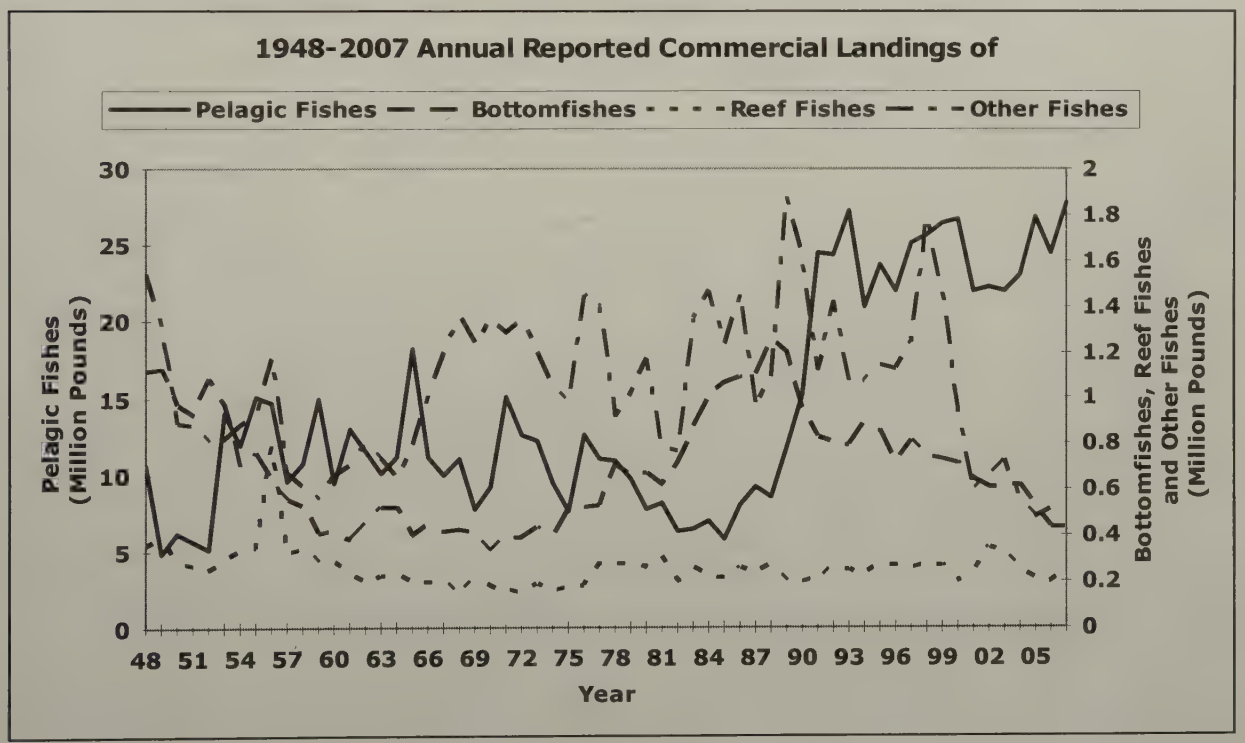

Figure D-3-2

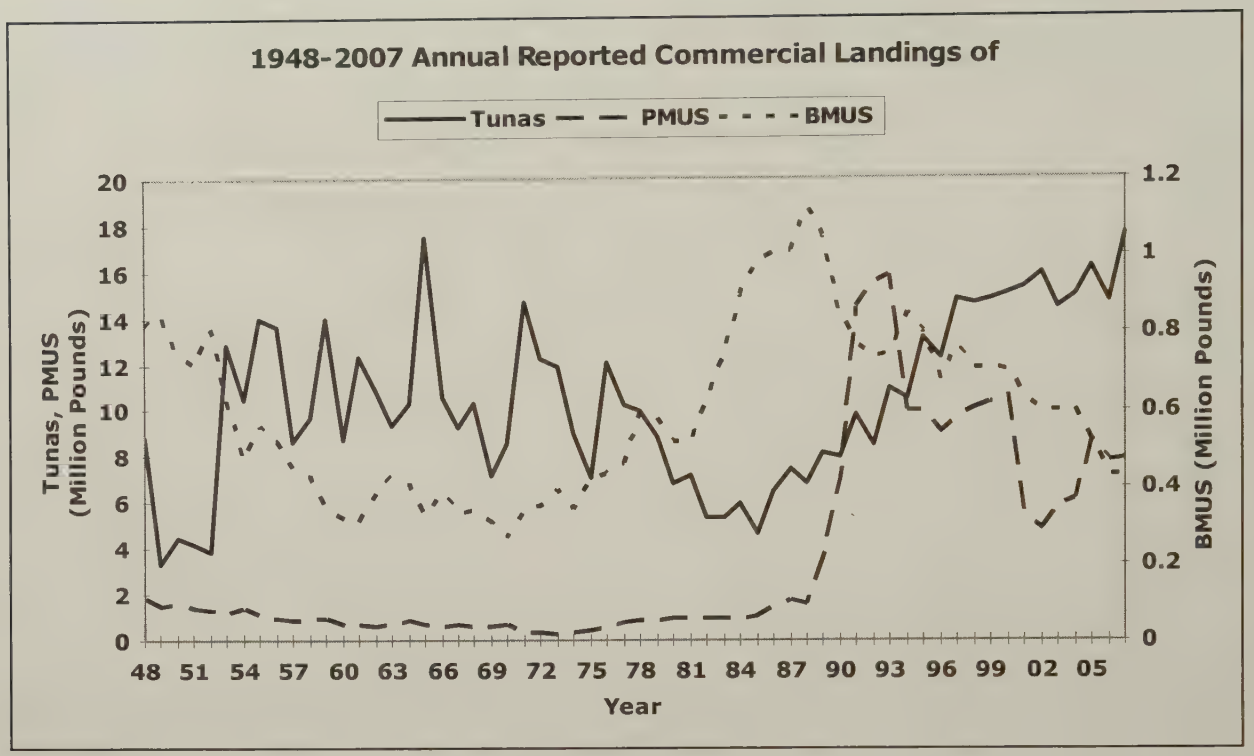

Figure D-3-3

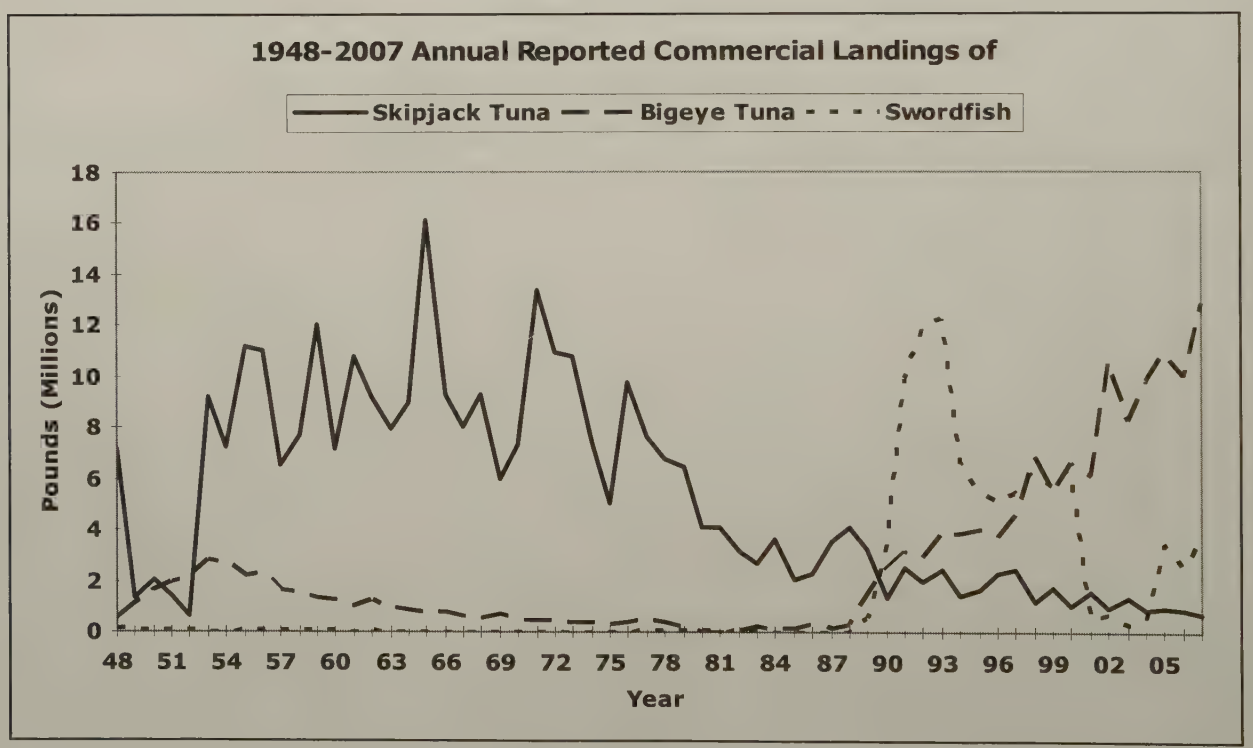

Figure D-3-4

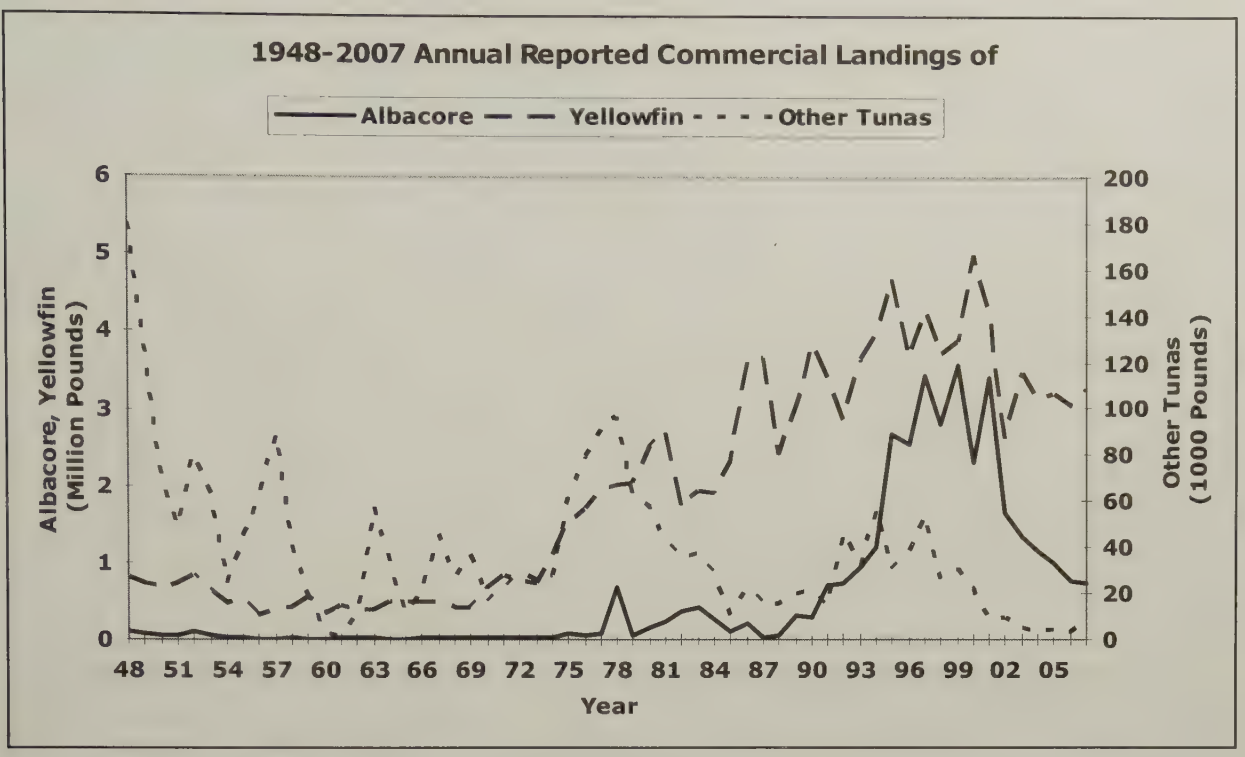

Figure D-3-5

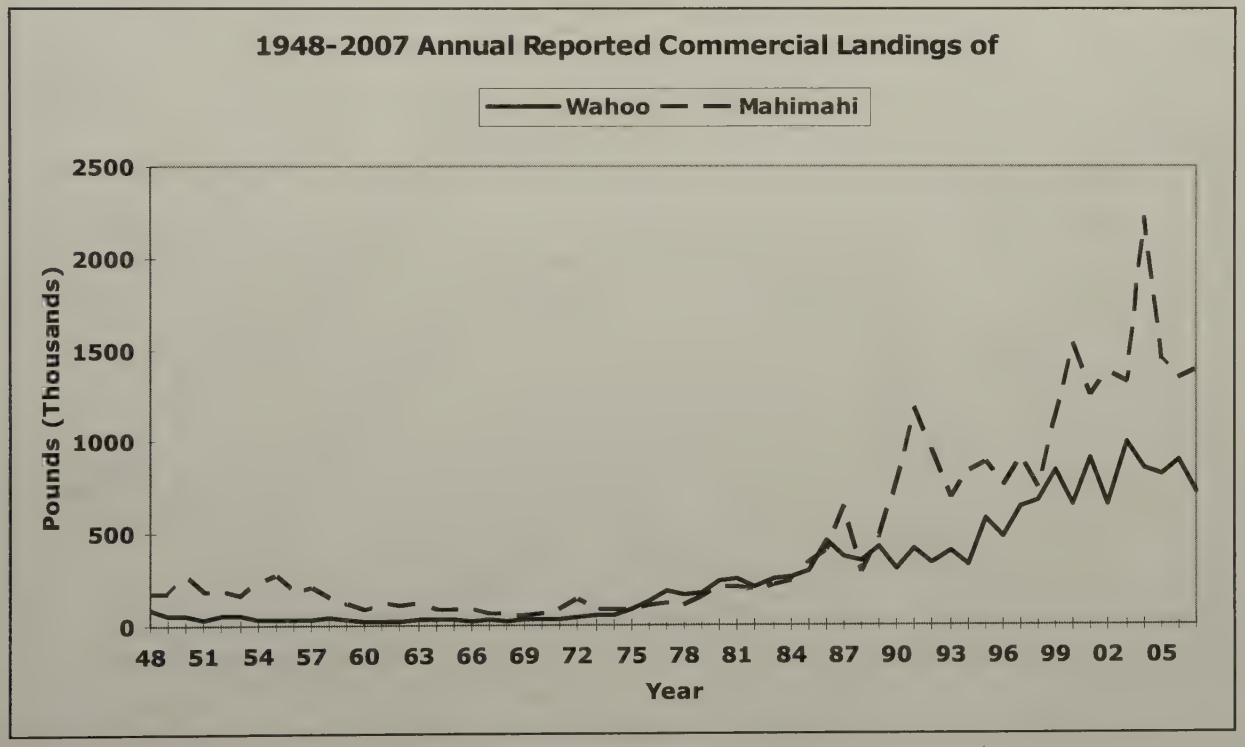

Figure D-3-6

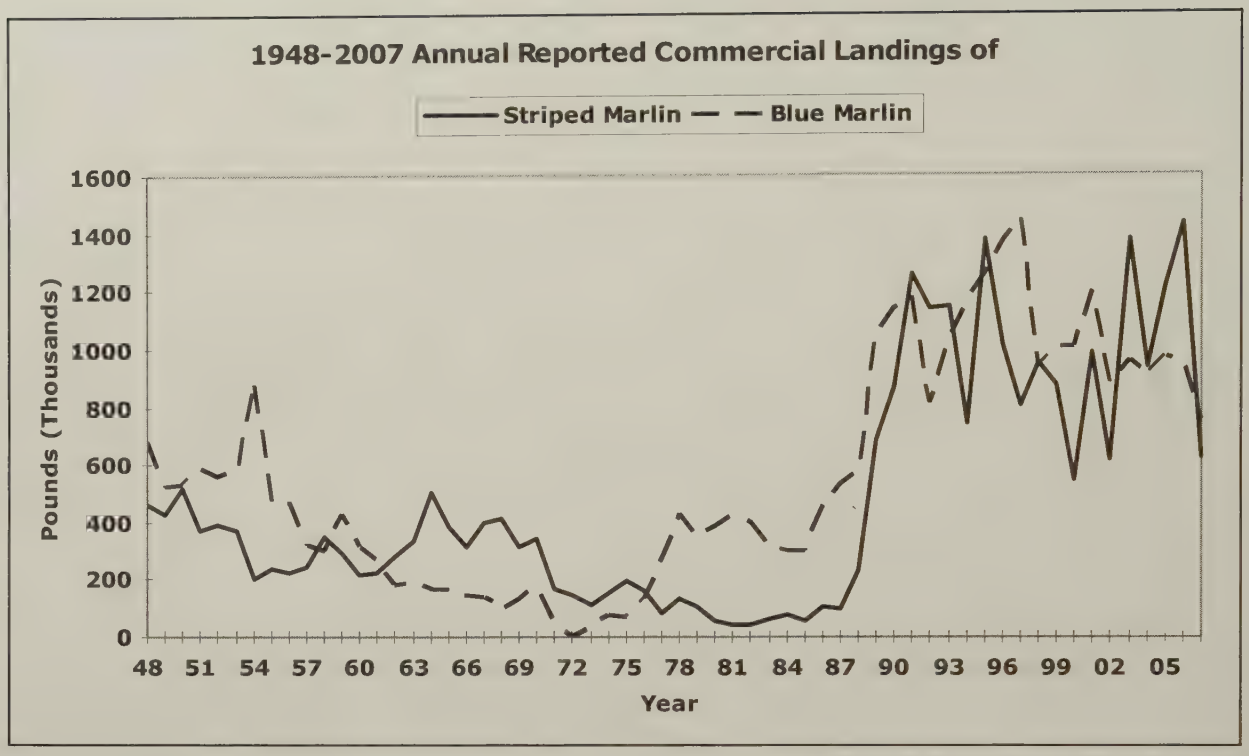

Figure D-3-7

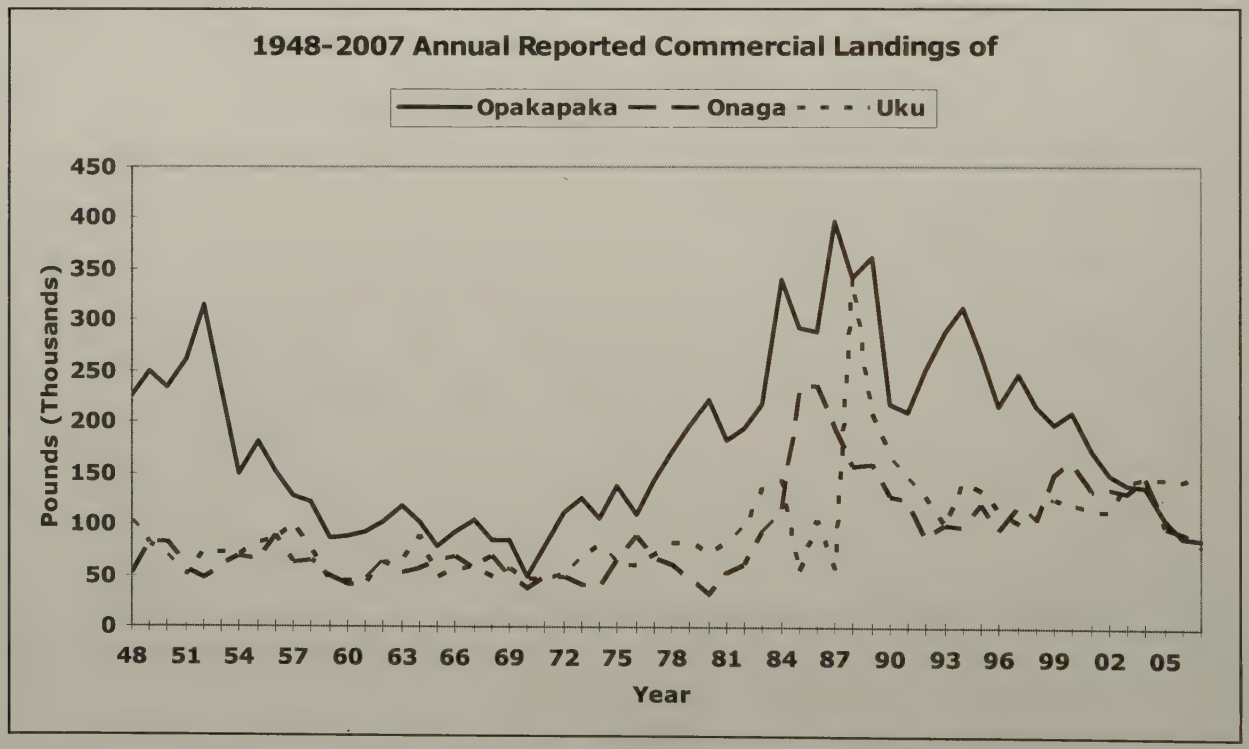

Figure D-3-8

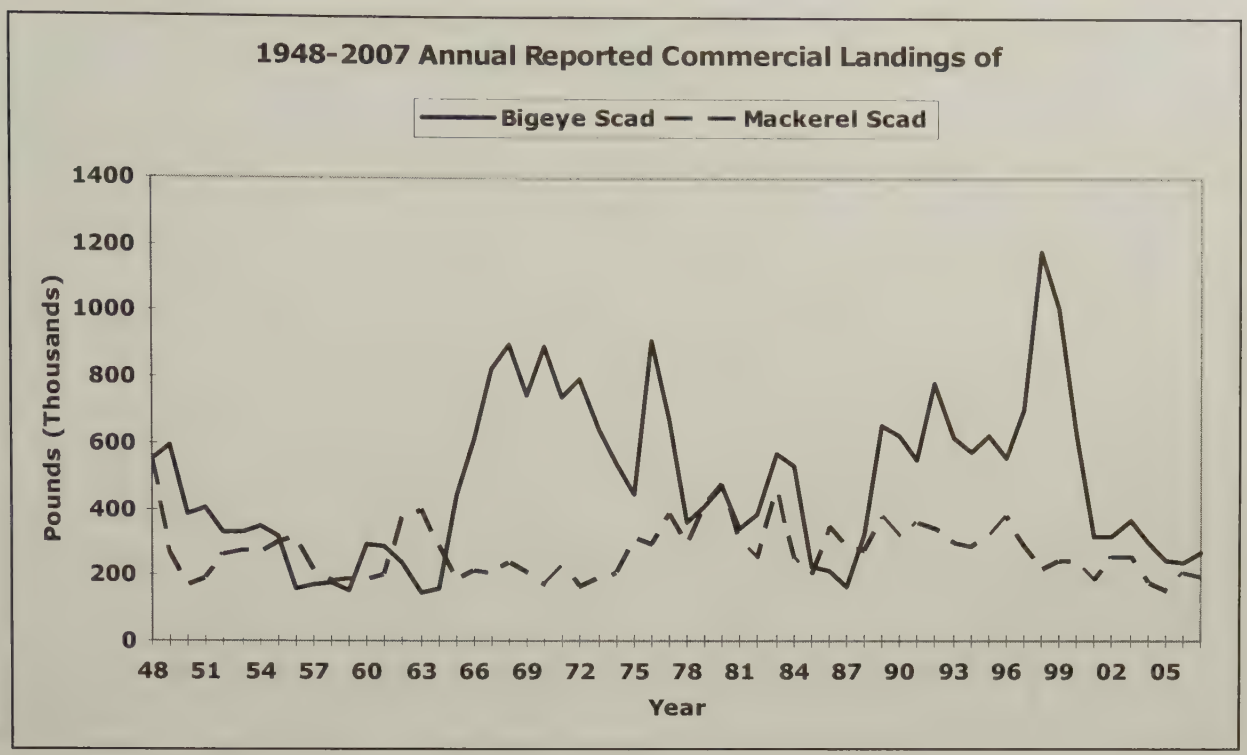

Figure D-3-9

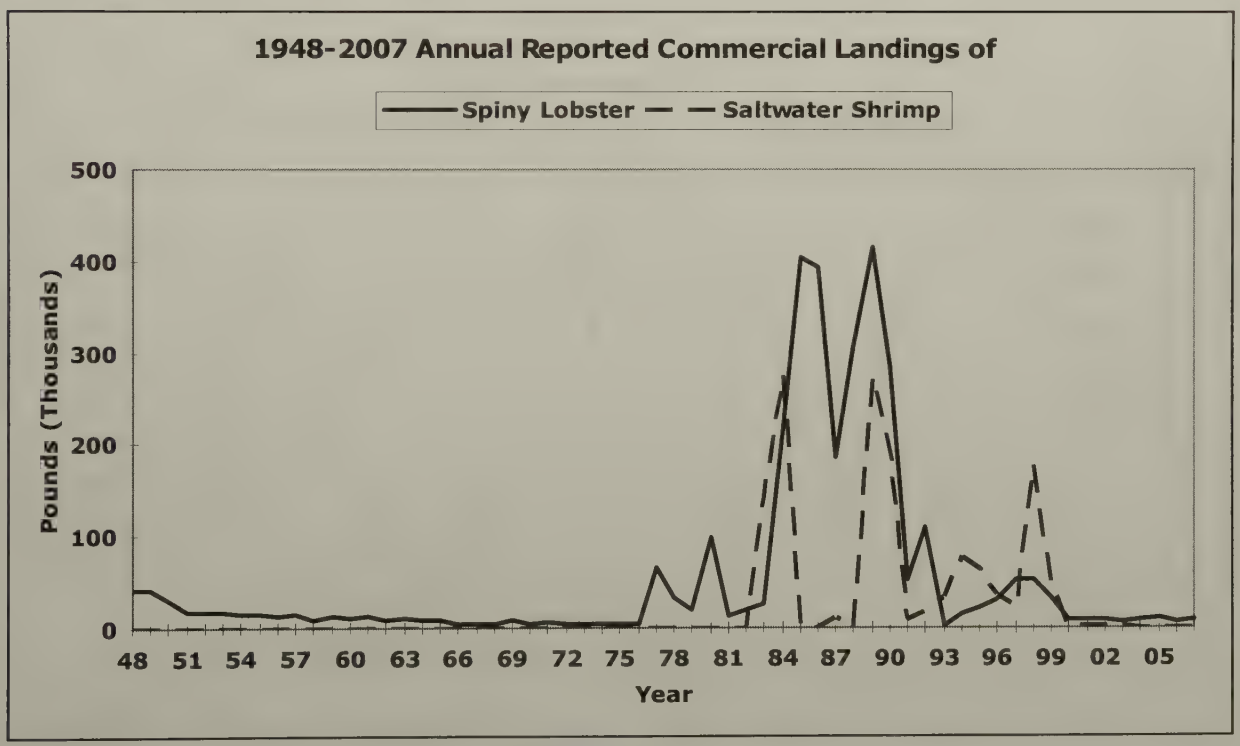

Figure D-3-10

The following graphs plot monthly landings of some commercially important species and document monthly fluctuations over the time series:

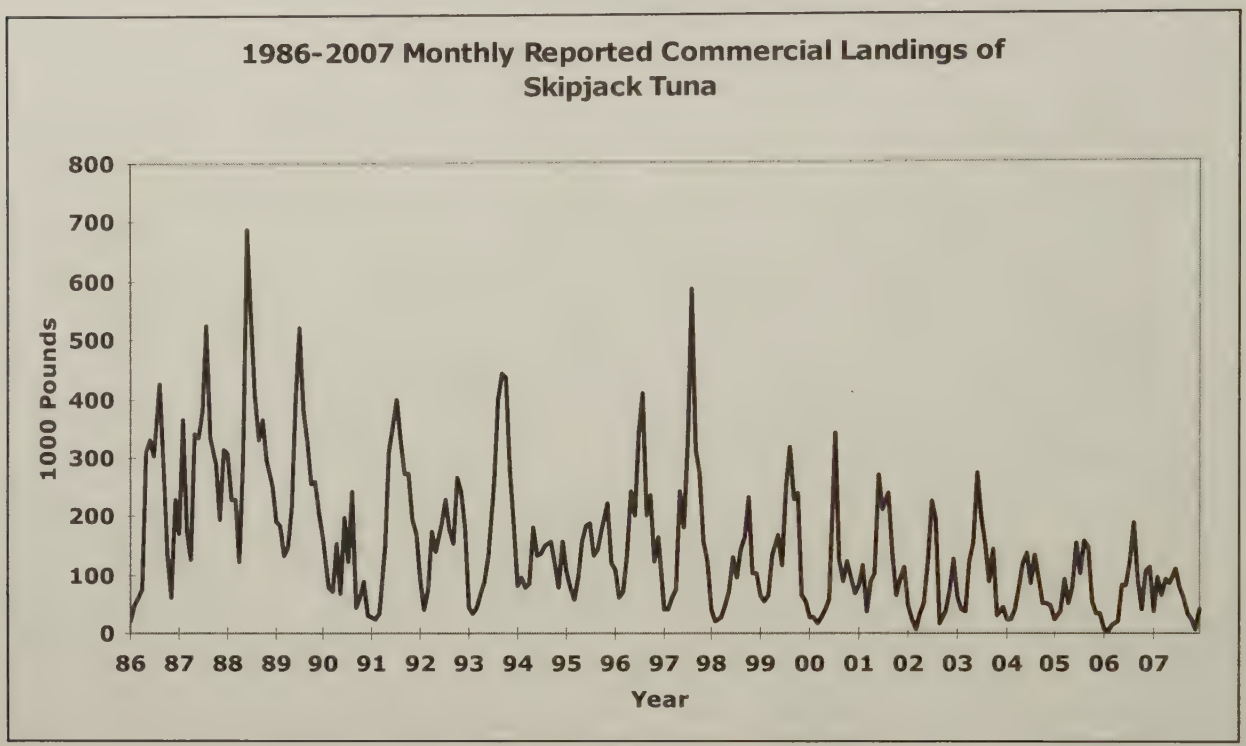

Figure D-4-1

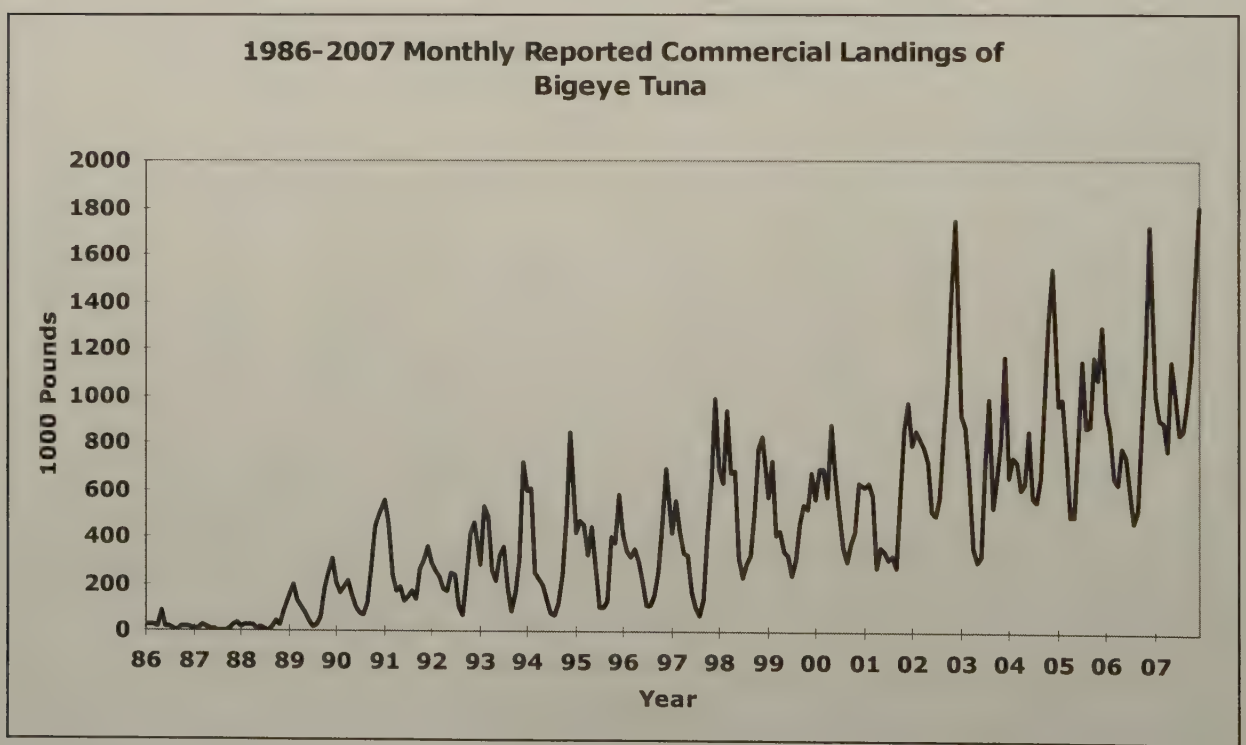

Figure D-4-2

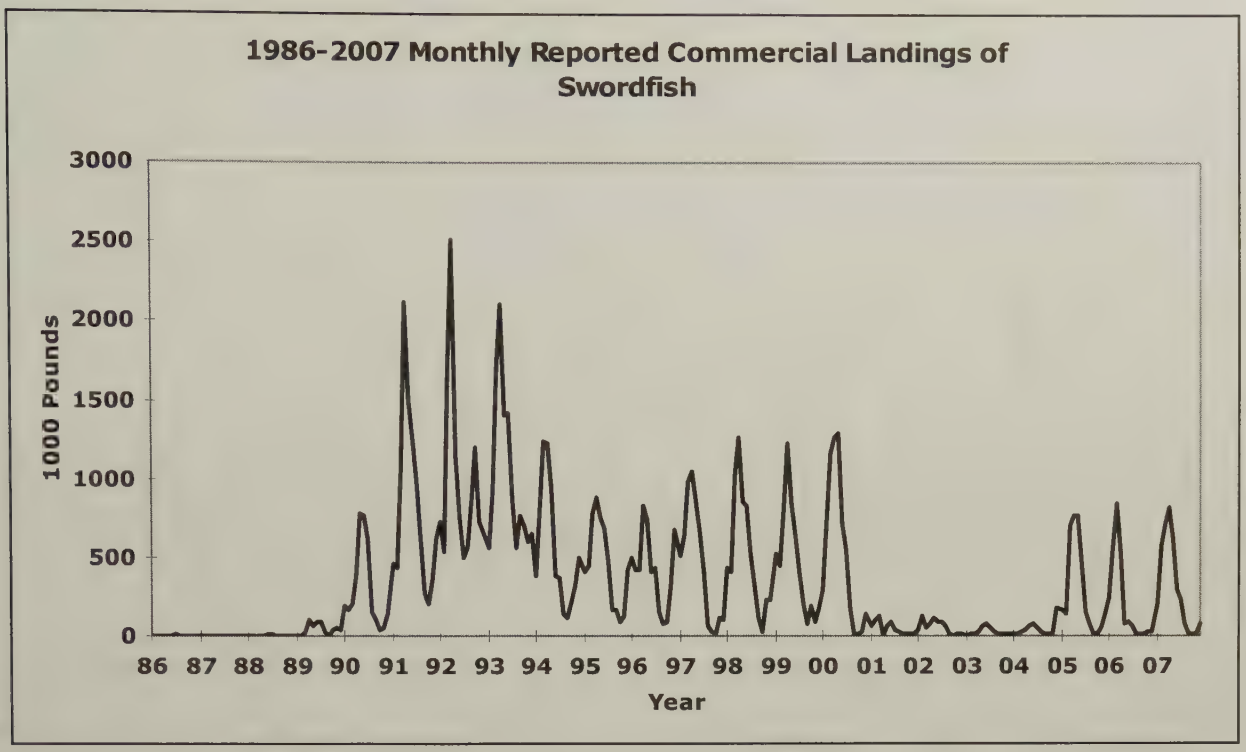

Figure D-4-3

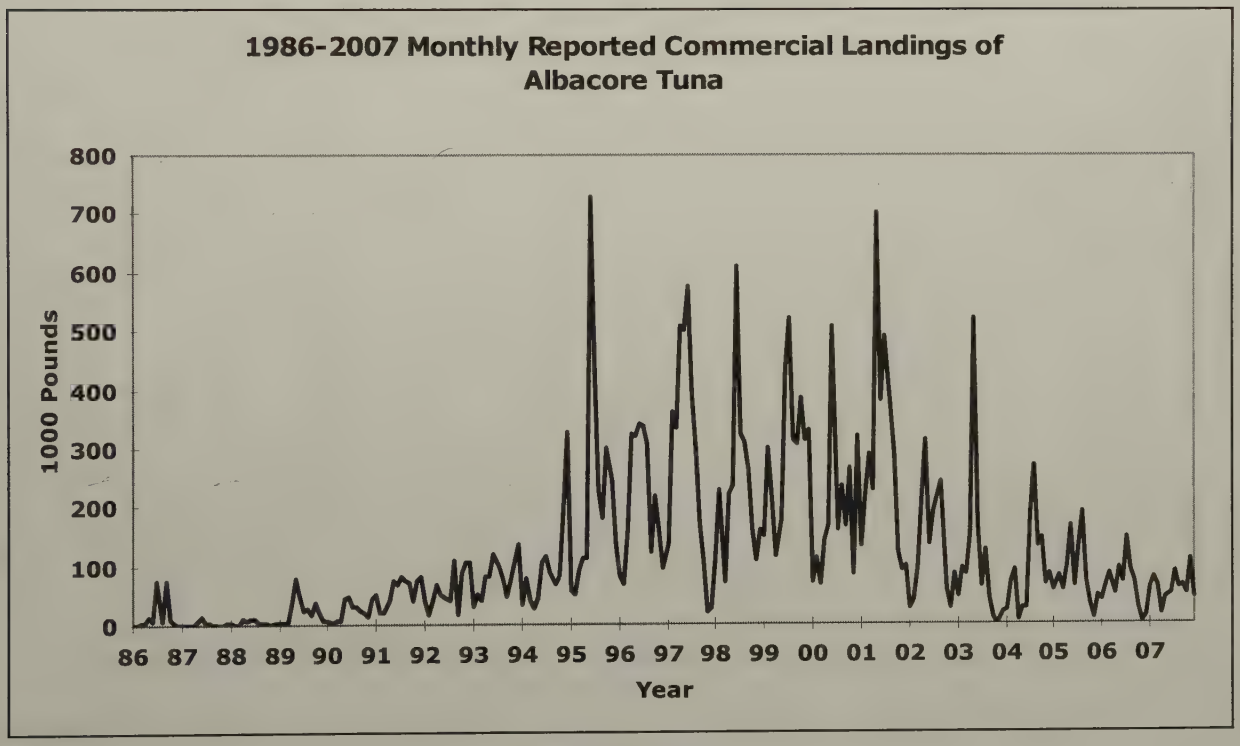

Figure D-4-4

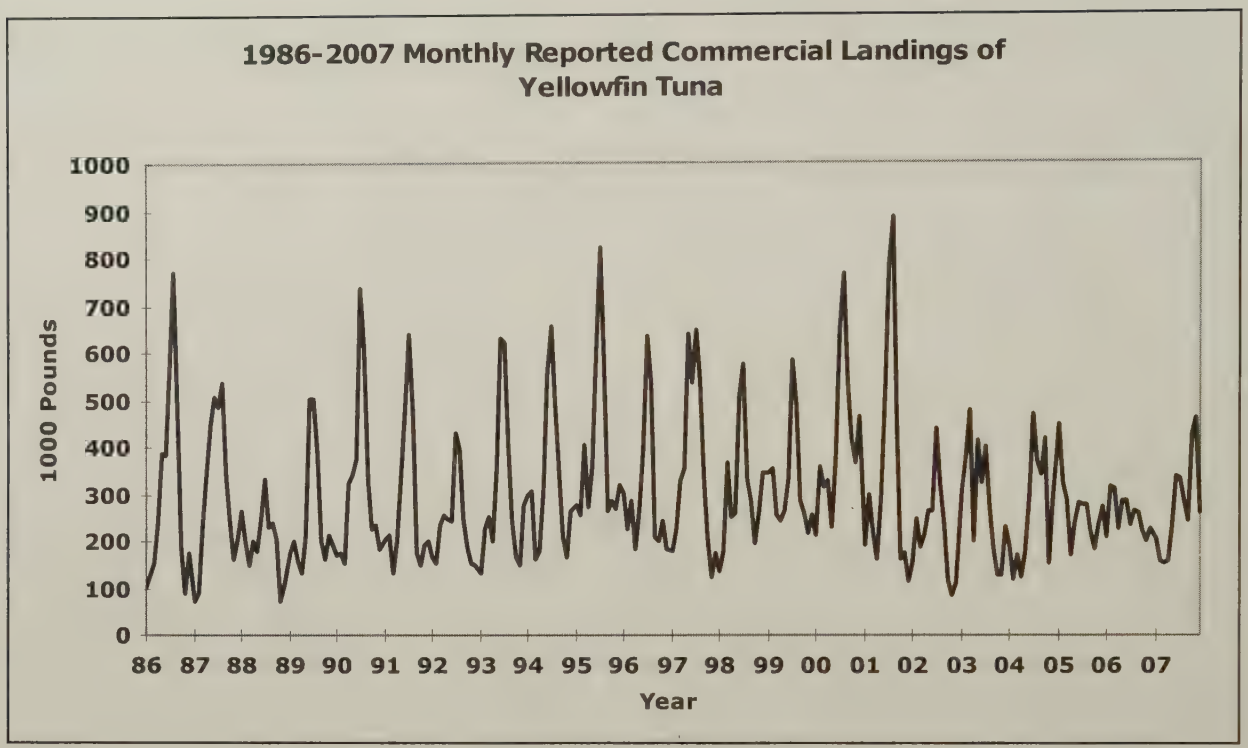

Figure D-4-5

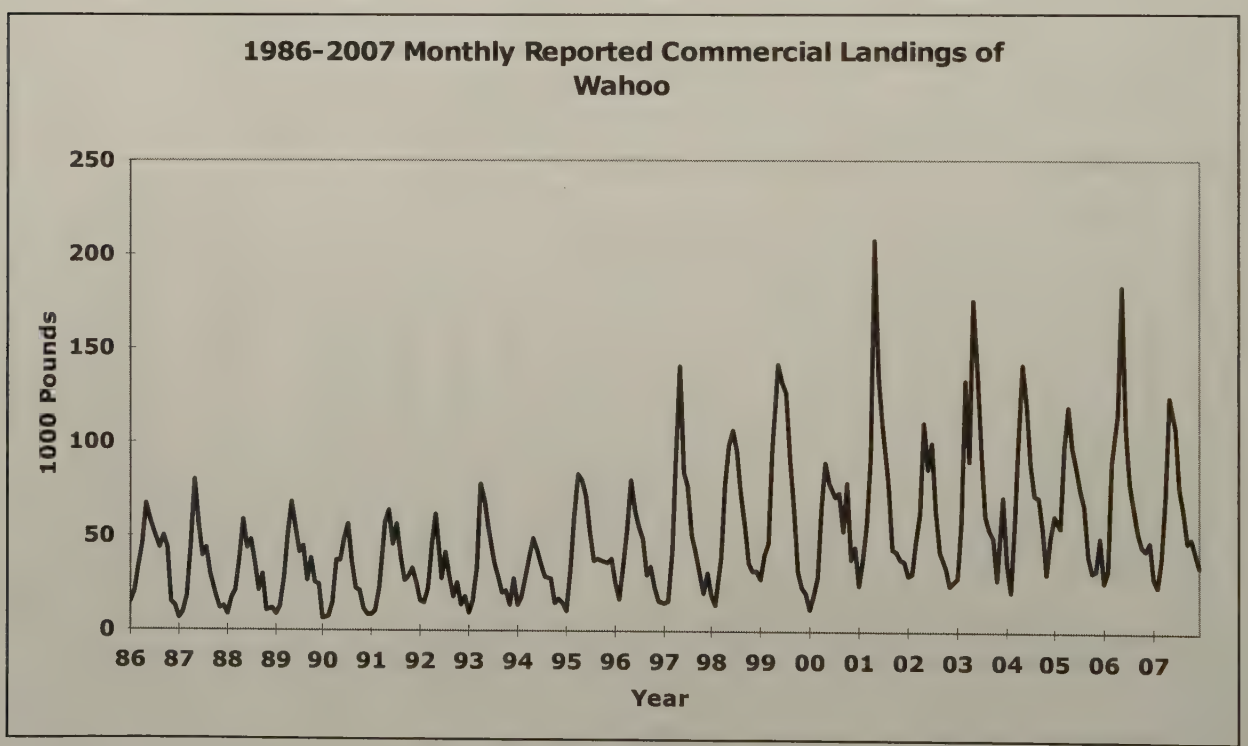

Figure D-4-6

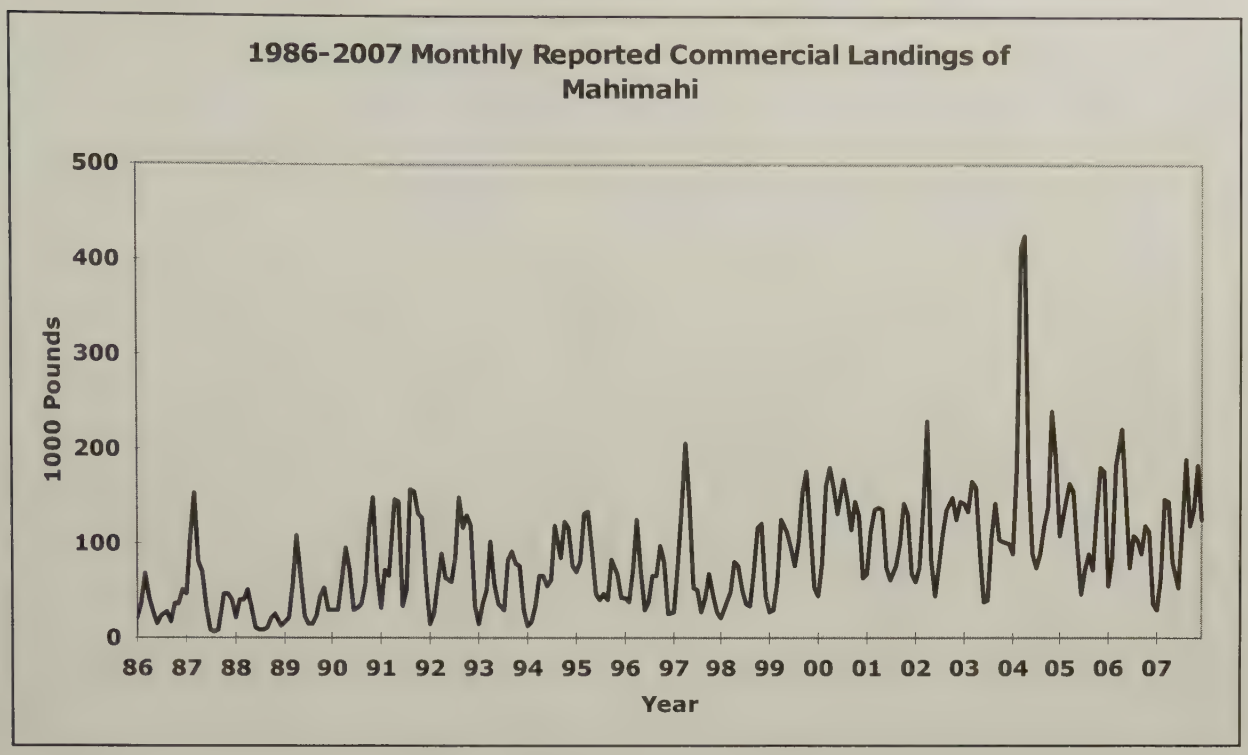

Figure D-4-7

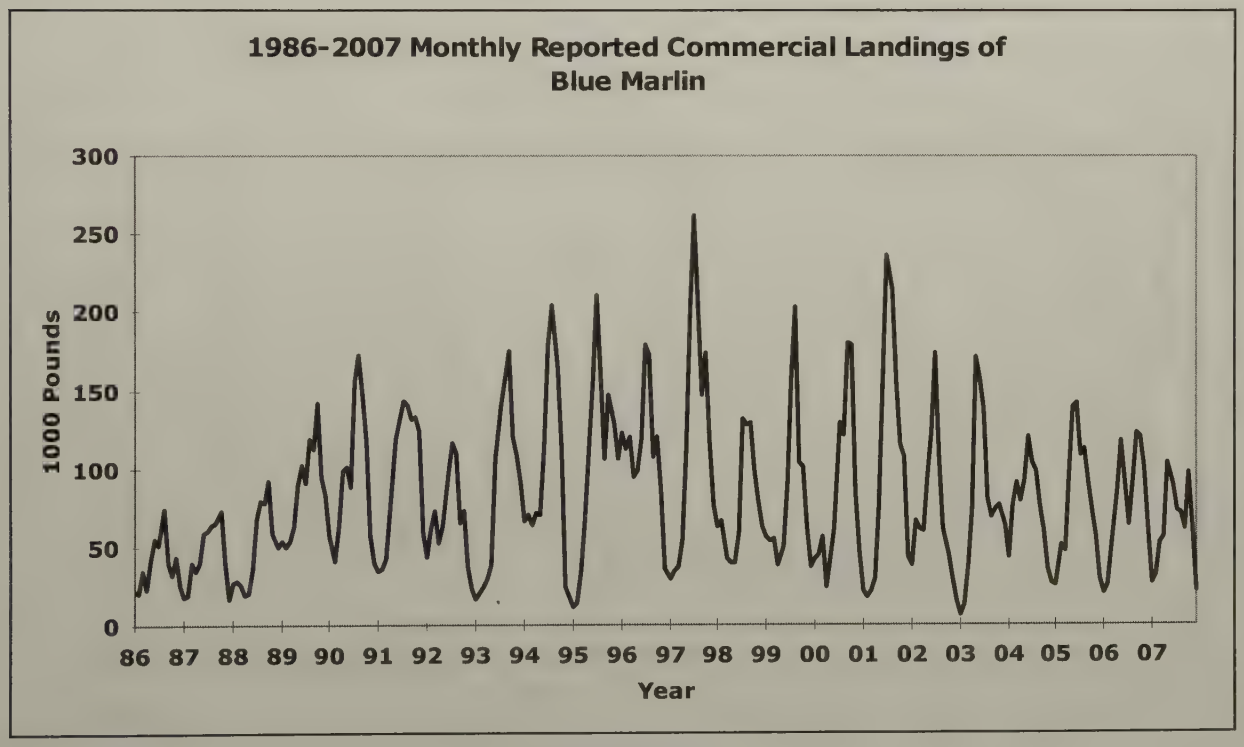

Figure D-4-8

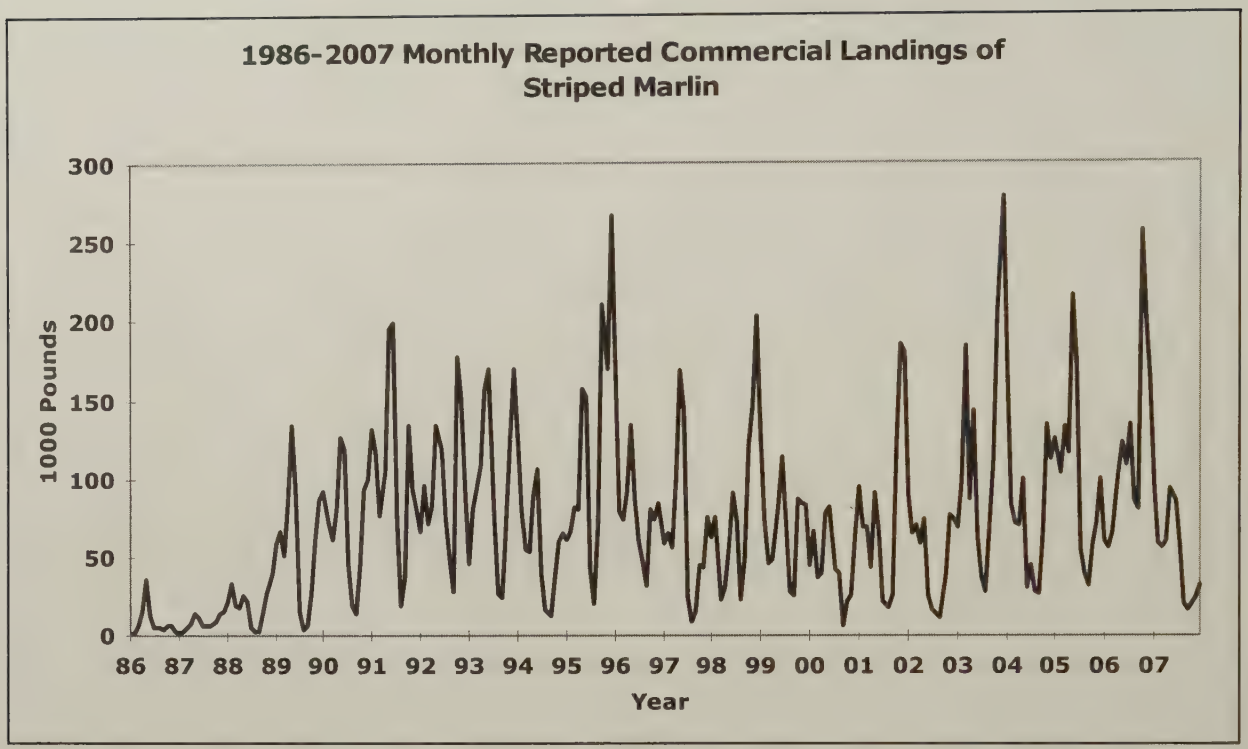

Figure D-4-9

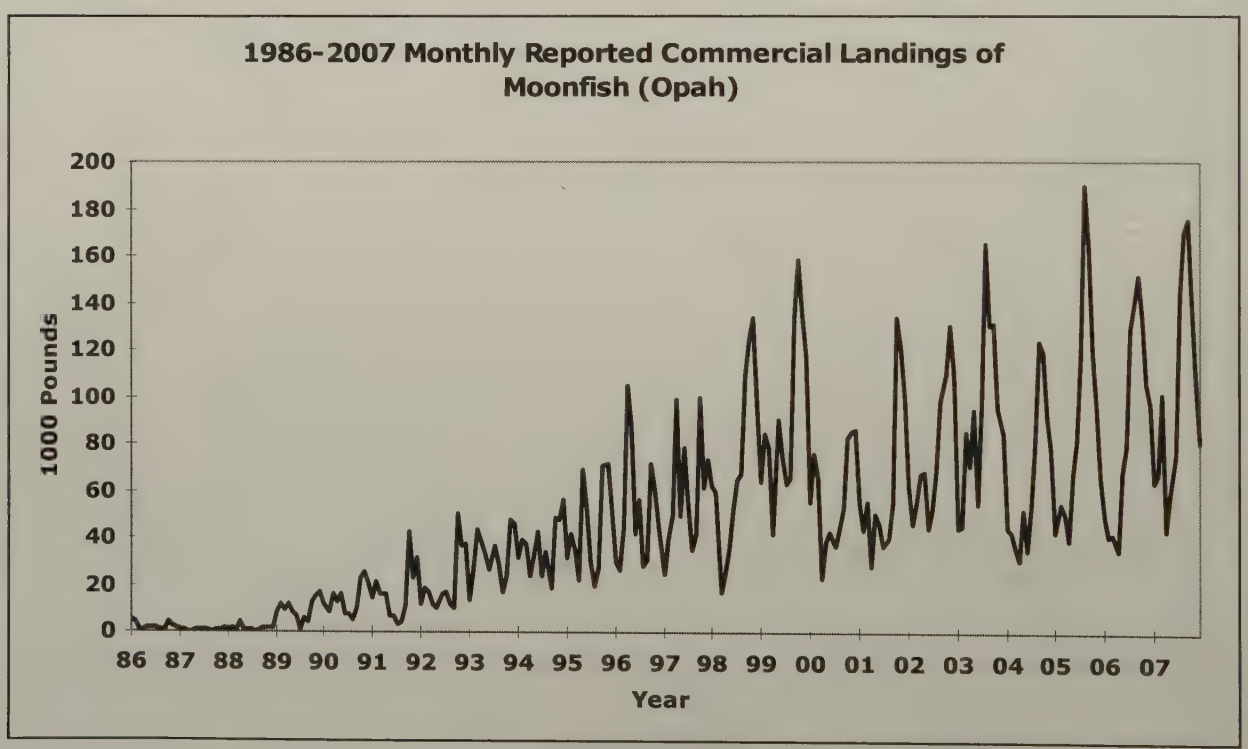

Figure D-4-10

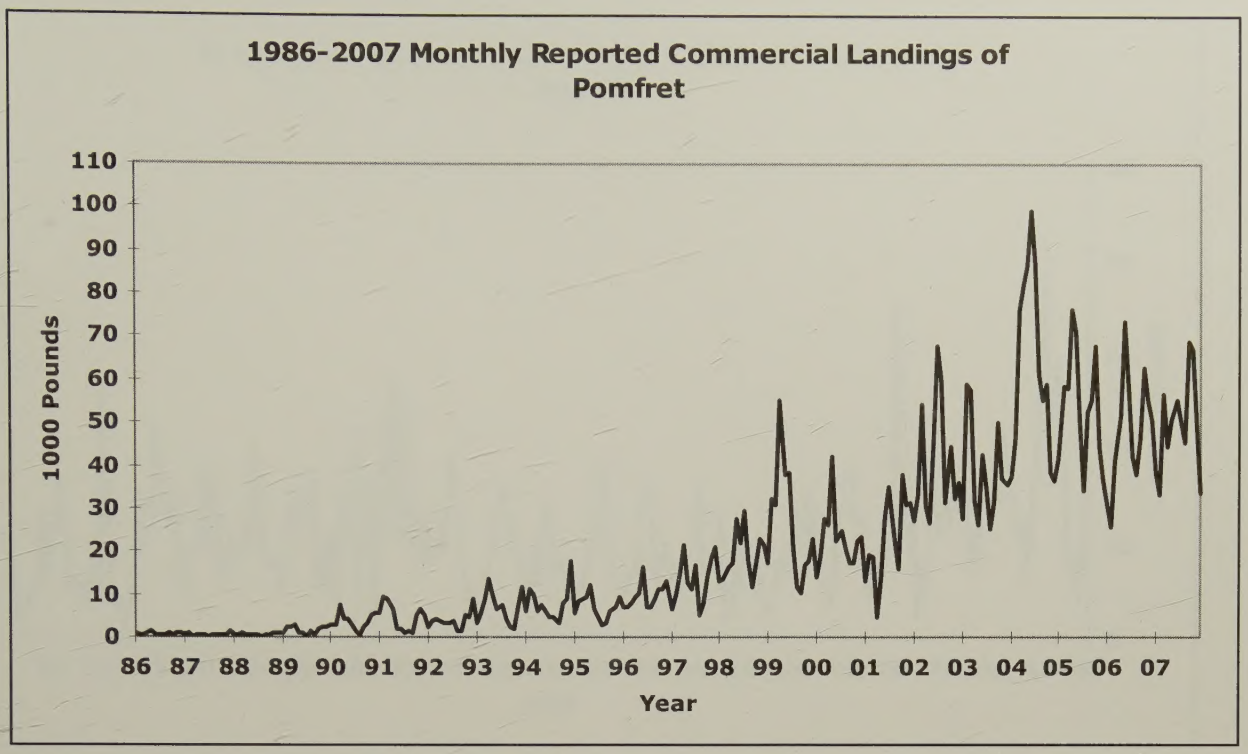

Figure D-4-11

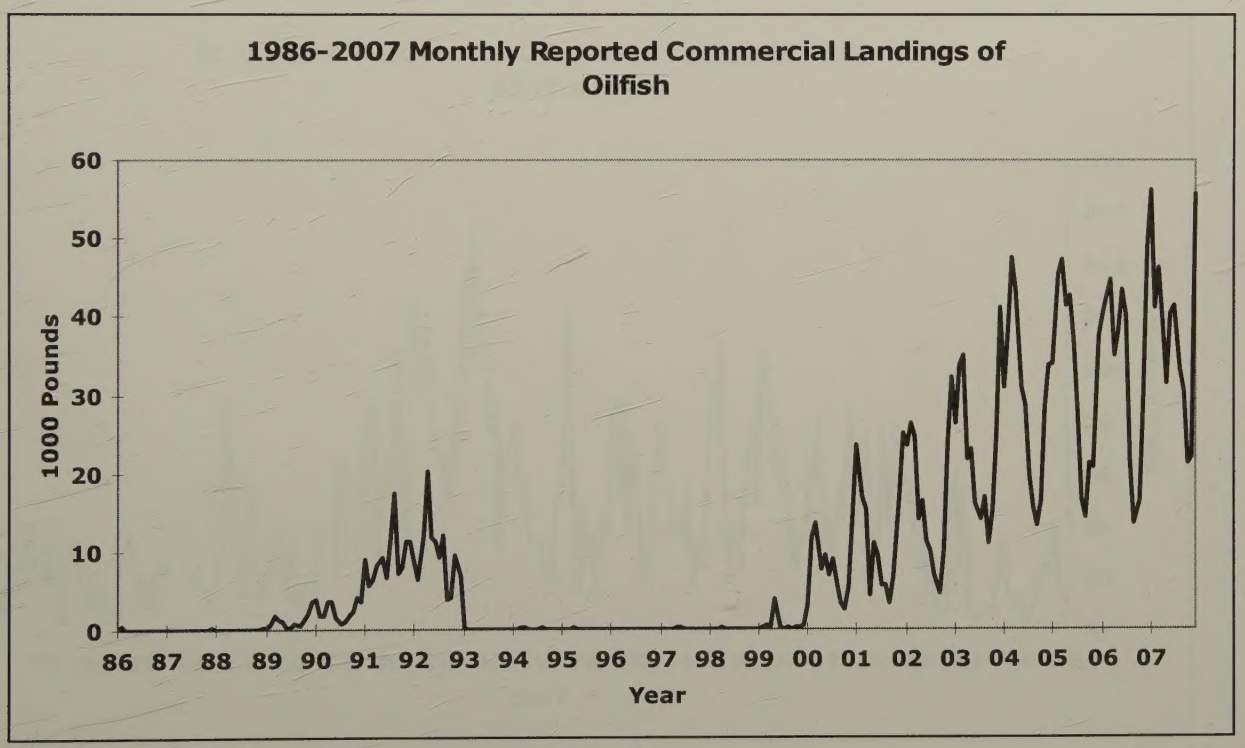

Figure D-4-12

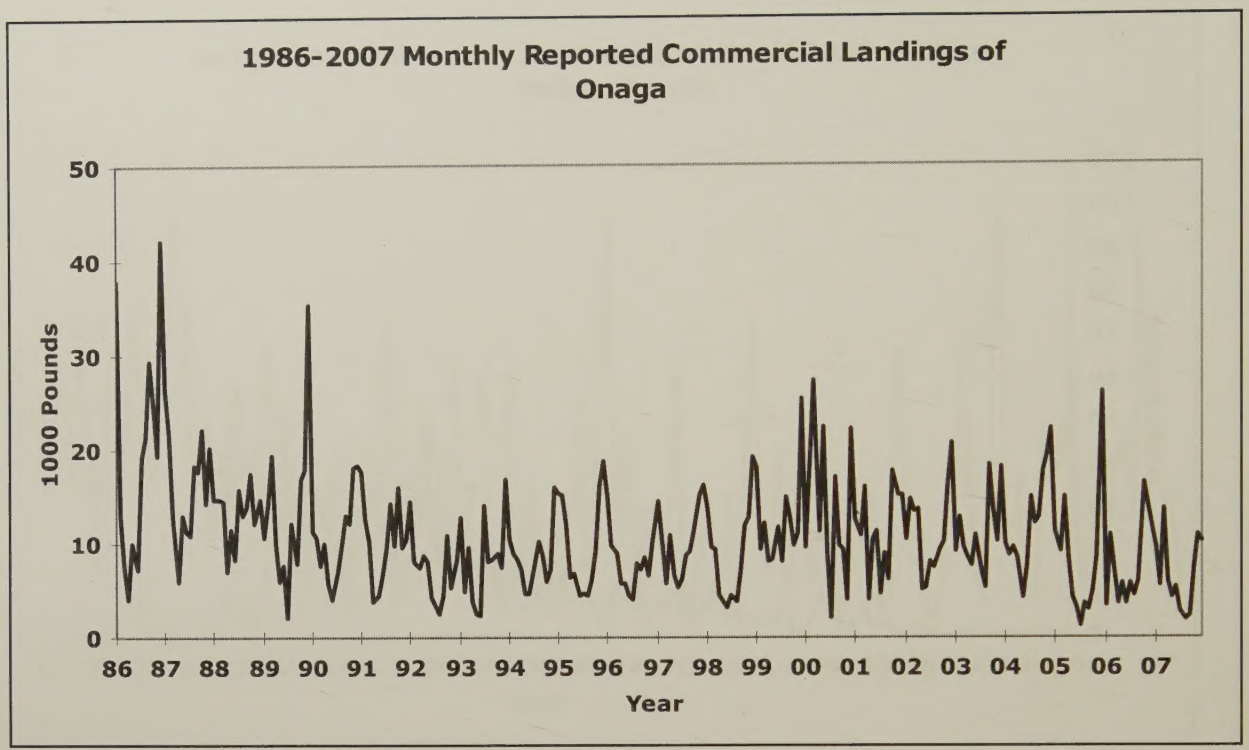

Figure D-4-13

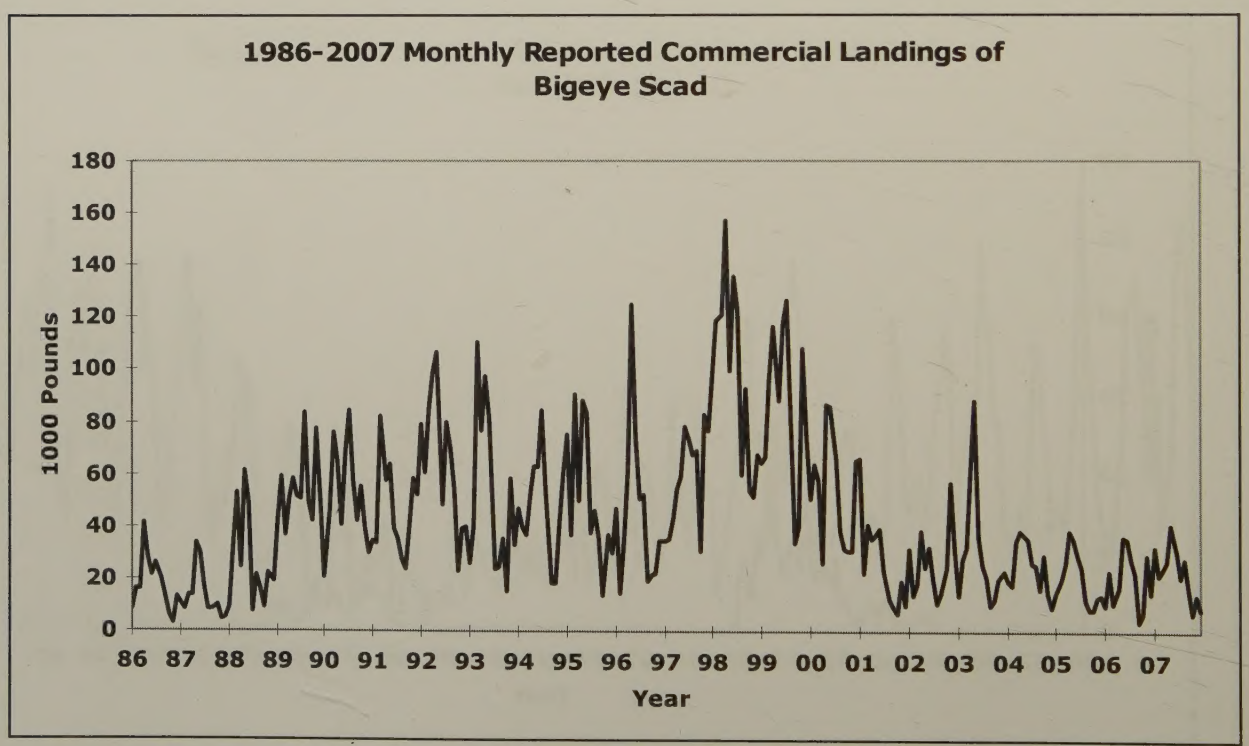

Figure D-4-14